

Exhibit C
Environmental Plans

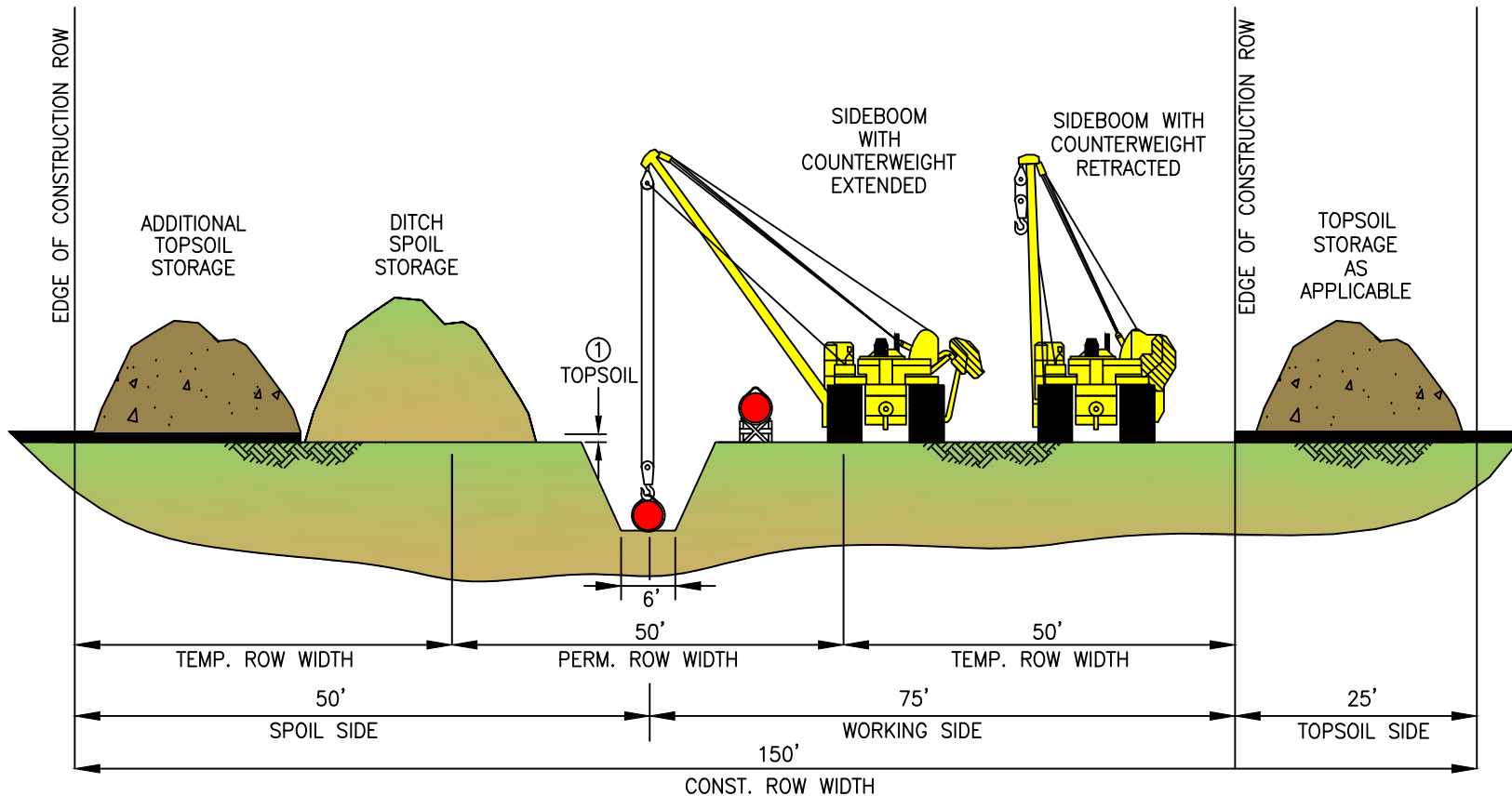
C.1

Environmental Construction Plan

To be submitted January 2015

C.2

Right-of-Way Configurations and Typical Construction Details



NOTES:

- ① DEPTH OF TOPSOIL SEGREGATED BASED UPON SITE-SPECIFIC CONDITIONS.

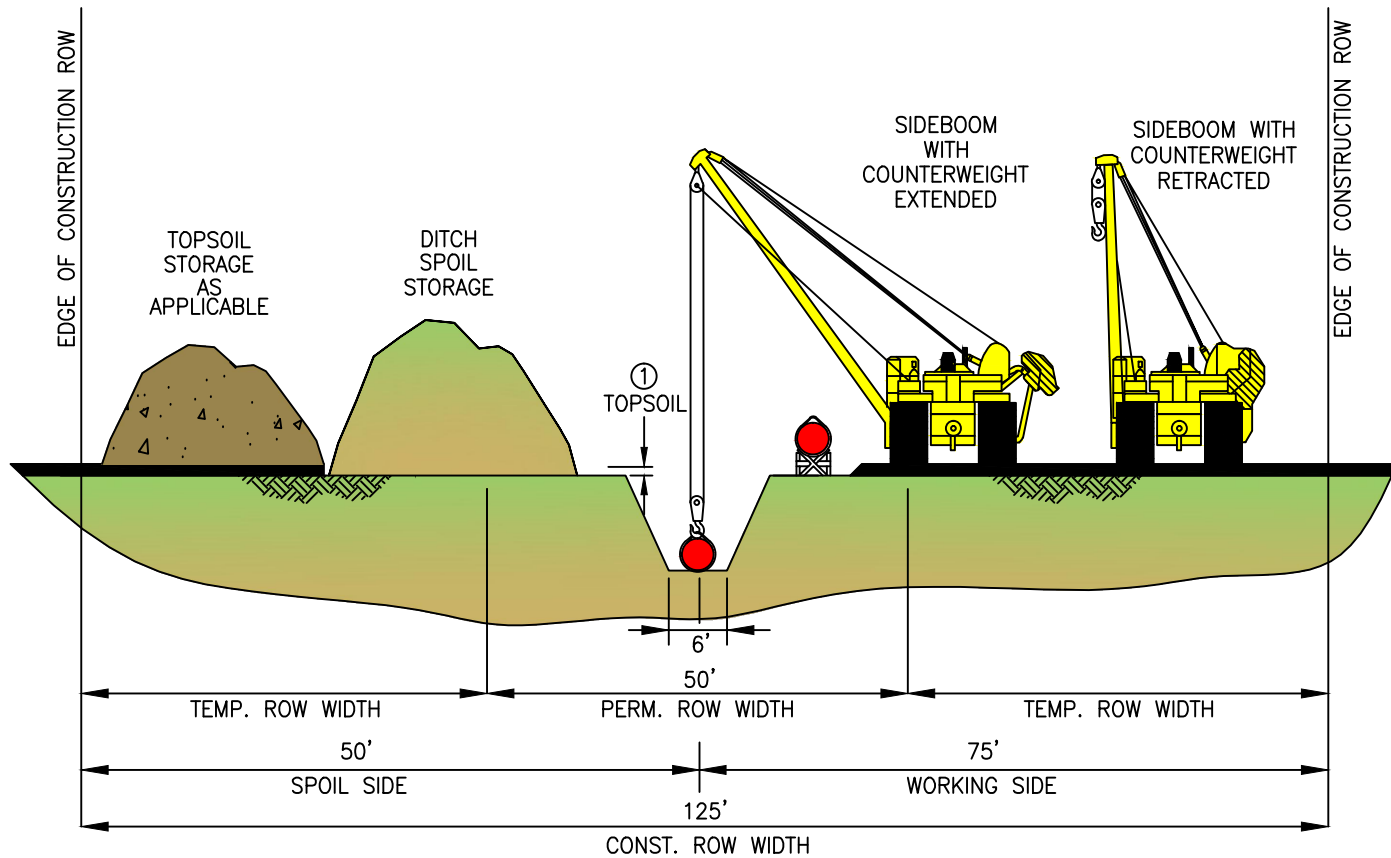
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| C | 12/12/14 | RER | ISSUED FOR REVIEW | |
| B | 12/12/14 | RER | ISSUED FOR REVIEW | |
| A | 9/16/14 | MR | ISSUED FOR REVIEW | |

TYPICAL RIGHT-OF-WAY CONFIGURATION

UPLAND CONSTRUCTION FULL WIDTH TOPSOIL SEGREGATION

PROJECT NO. 10395700

| | | | |
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| DRAWN BY: MR | DATE: 09/15/14 | DWG. NO. | REV. |
| CHECKED BY: RL | DATE: 09/15/14 | P12-55 | C |
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NOTES:

- ① DEPTH OF TOPSOIL SEGREGATED BASED UPON SITE-SPECIFIC CONDITIONS.

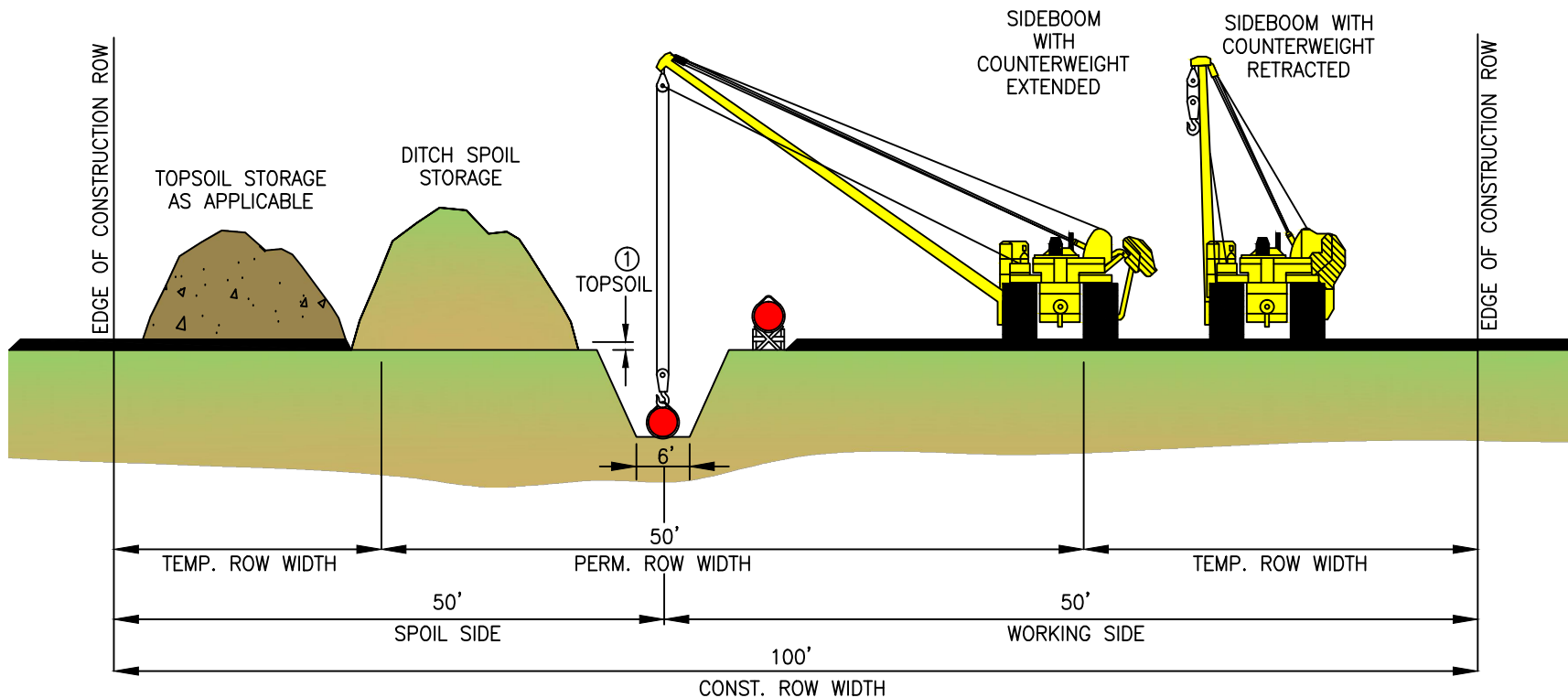
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| C | 12/12/14 | RER | ISSUED FOR REVIEW | |
| B | 12/12/14 | RER | ISSUED FOR REVIEW | |
| A | 9/16/14 | MR | ISSUED FOR REVIEW | |

PROJECT NO. 10395700

TYPICAL RIGHT-OF-WAY CONFIGURATION

UPLAND DITCH LINE AND SPOIL SIDE TOPSOIL SEGREGATION

| | | | |
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| DRAWN BY: MR | DATE: 09/15/14 | DWG. NO. | REV. |
| CHECKED BY: RL | DATE: 09/15/14 | P12-56 | C |
| SCALE: N.T.S. | APP.: | | |



NOTES:

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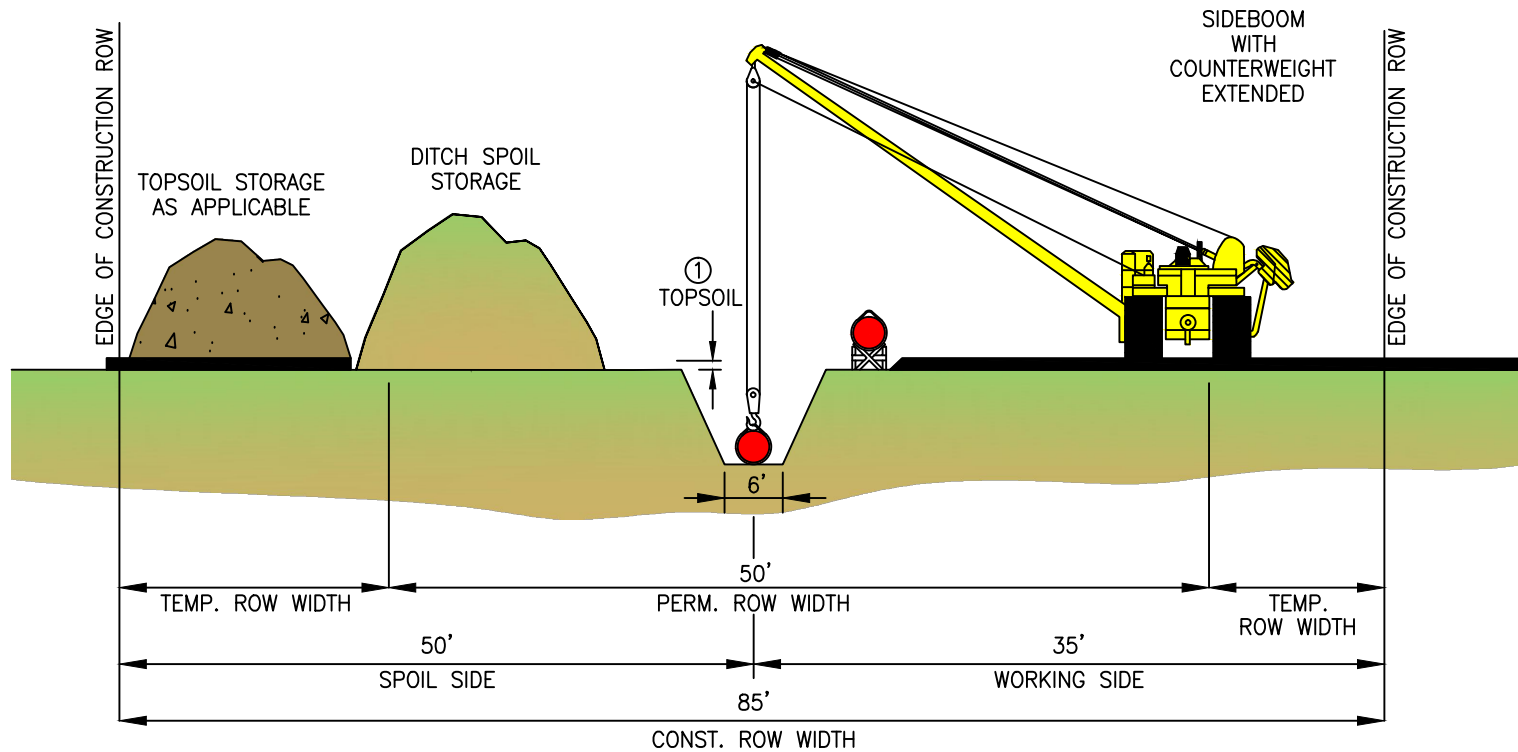
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| C | 12/12/14 | RER | ISSUED FOR REVIEW | |
| B | 12/12/14 | RER | ISSUED FOR REVIEW | |
| A | 9/15/14 | JWH | ISSUED FOR REVIEW | |

PROJECT NO. 10395700

TYPICAL RIGHT-OF-WAY CONFIGURATION

EMERGENT NON-SATURATED WETLANDS

| | | | |
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| DRAWN BY: JWH | DATE: 09/15/14 | DWG. NO. | REV. |
| CHECKED BY: DAH | DATE: 09/19/14 | P12-57 | C |
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NOTES:

- ① DEPTH OF TOPSOIL SEGREGATED BASED UPON SITE-SPECIFIC CONDITIONS.

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| C | 12/12/14 | RER | ISSUED FOR REVIEW | |
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| A | 9/15/14 | JWH | ISSUED FOR REVIEW | |

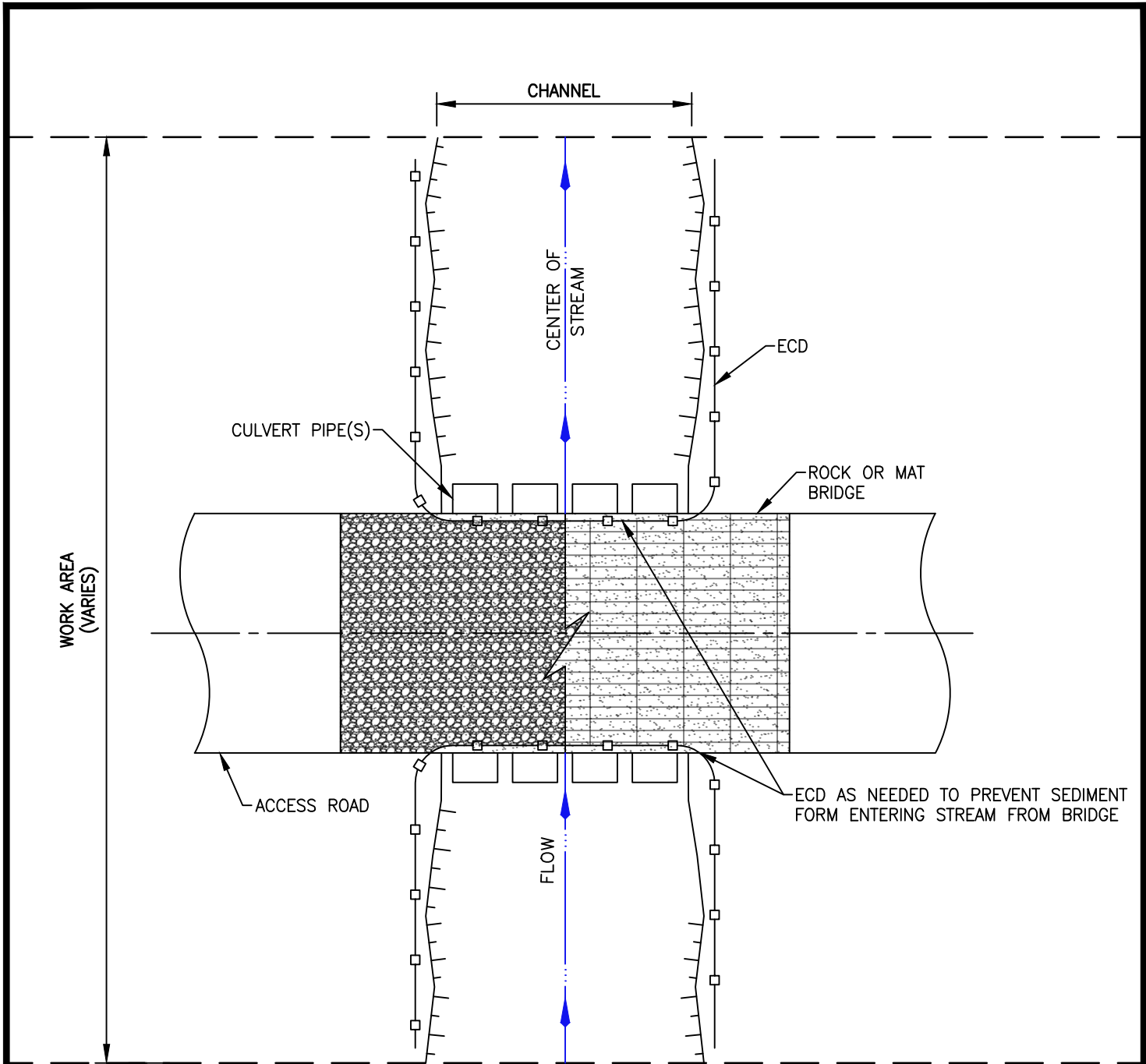
TYPICAL RIGHT-OF-WAY CONFIGURATION

UPLAND AND WETLAND FORESTED AREAS

PROJECT NO. 10395700

| | | | |
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| CHECKED BY: DAH | DATE: 08/18/14 | | |
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NOTE:

1. USE AS MANY CULVERT PIPE(S) AS REQUIRED TO ENSURE NORMAL STREAM FLOW IS NOT OBSTRUCTED BY ROCK OR MAT BRIDGE.

ECD:

EROSION CONTROL DEVICE
(SILT FENCE, STRAW BALES OR SANDBAGS).

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PROJECT NO.



WOOD GROUP MUSTANG, INC.
PROJECT NO: 10395700

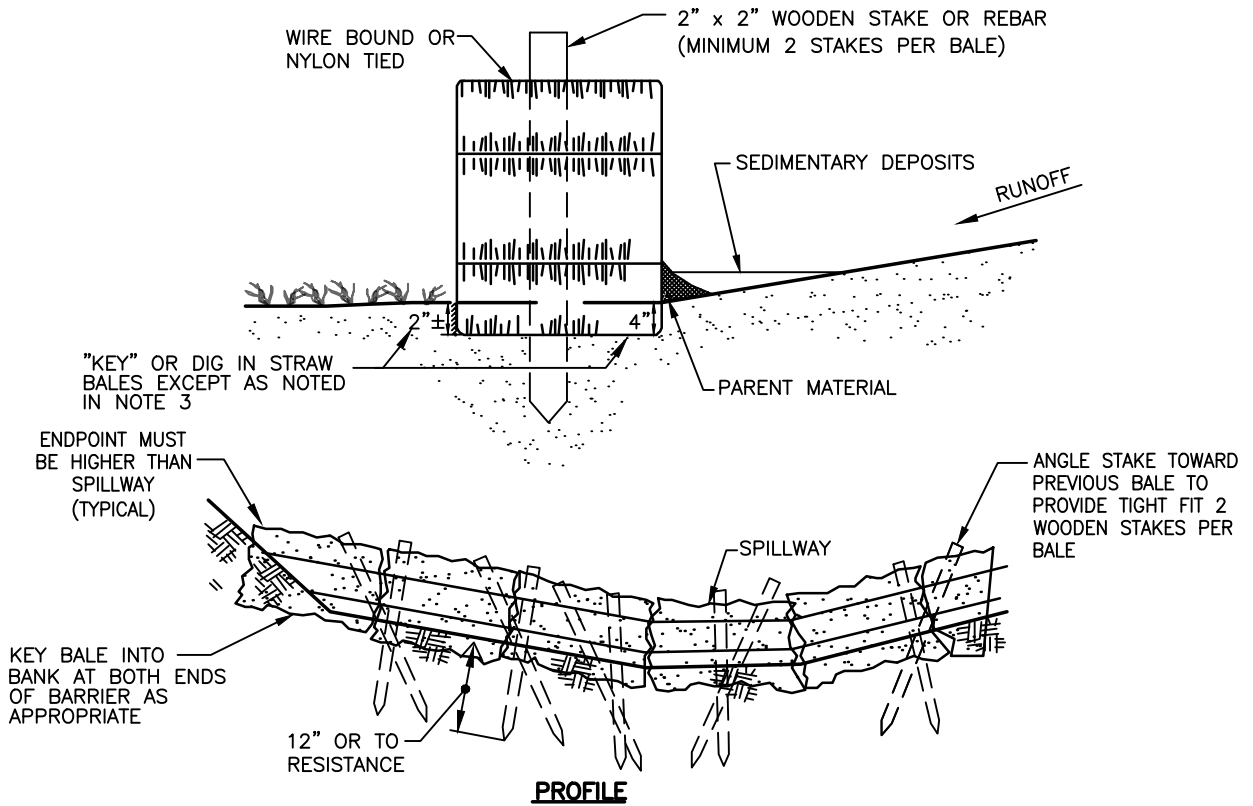


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TYPICAL
**ROCK OR MAT BRIDGE
WITH CULVERTS**

| | | | |
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NOTES:

1. STRAW BALE SEDIMENT BARRIERS MAY BE INSTALLED AT THE FOLLOWING LOCATIONS:
 - THE BASE OF ALL SLOPES ABOVE ROADS, SPRINGS, WETLANDS, IMPOUNDMENTS AND STREAMS;
 - THE DOWNSLOPE RIGHT-OF-WAY EDGE WHERE ANY OF THE ABOVE-MENTIONED LOCATIONS ARE ADJACENT TO THE RIGHT-OF-WAY;
 - BETWEEN TOPSOIL/SPOIL STOCKPILES AND STREAMS OR WETLANDS AS NEEDED;
 - ALONG R.O.W. BOUNDARIES IN WETLAND CONSTRUCTION;
 - ACROSS CONSTRUCTION R.O.W. AT ALL WATERBODY CROSSINGS;
 - AS SPECIFIED IN THE SPILL PREVENTION, CONTAINMENT, AND COUNTERMEASURE PLAN;
 - AS DIRECTED BY THE INSPECTOR.
2. STRAW BALE SEDIMENT BARRIERS SHALL CONSIST OF A ROW OF STRAW BALES, PLACED ON THE FIBER-CUT EDGE (TIES NOT IN CONTACT WITH THE GROUND). BALES SHALL BE TIGHTLY ABUTTED TO ONE ANOTHER. THE BARRIER SHALL BE ONE BALE HIGH. ONLY CERTIFIED "NOXIOUS WEED-FREE" STRAW SHALL BE USED.
3. ENTRENCH ("KEY") STRAW BALES INTO THE GROUND TO A DEPTH OF 2" EXCEPT IN FROZEN, SATURATED, OR EXTREMELY ROCKY SOILS. PLACE PARENT MATERIAL ON UPSTREAM SIDE OF STRAW BALES TO PREVENT UNDERMINING.
4. WALK ON STRAW BALES TO INSURE ADEQUATE BALE-TO-SOIL CONTACT.
5. ANCHOR STRAW BALES SECURELY IN PLACE WITH TWO WOODEN OR STEEL REBAR STAKES DRIVEN THROUGH THE TOPS OF THE BALES. THE STAKES SHALL PENETRATE THE GROUND A DISTANCE OF 12" UNLESS ROCK OR AN IMPERMEABLE LAYER IS ENCOUNTERED:
 - THE FIRST, CENTER AND END BALES OF THE BARRIER SHALL HAVE STAKES DRIVEN VERTICALLY THROUGH THE BALE;
 - BALES, OTHER THAN THOSE LOCATED AT THE ENDS OR CENTER OF THE BARRIER, SHALL HAVE THE FIRST STAKE DRIVEN THROUGH THE TOP OF THE BALE AT AN ANGLE SO THAT THE STAKE PASSES THROUGH THE PREVIOUSLY PLACED BALE, IN ORDER TO PROVIDE TIGHT CONTACT BETWEEN BALES. THE SECOND STAKE SHALL BE DRIVEN VERTICALLY THROUGH THE TOP OF THE BALE.



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TYPICAL
**EROSION CONTROL
STRAW BALE SEDIMENT BARRIER**

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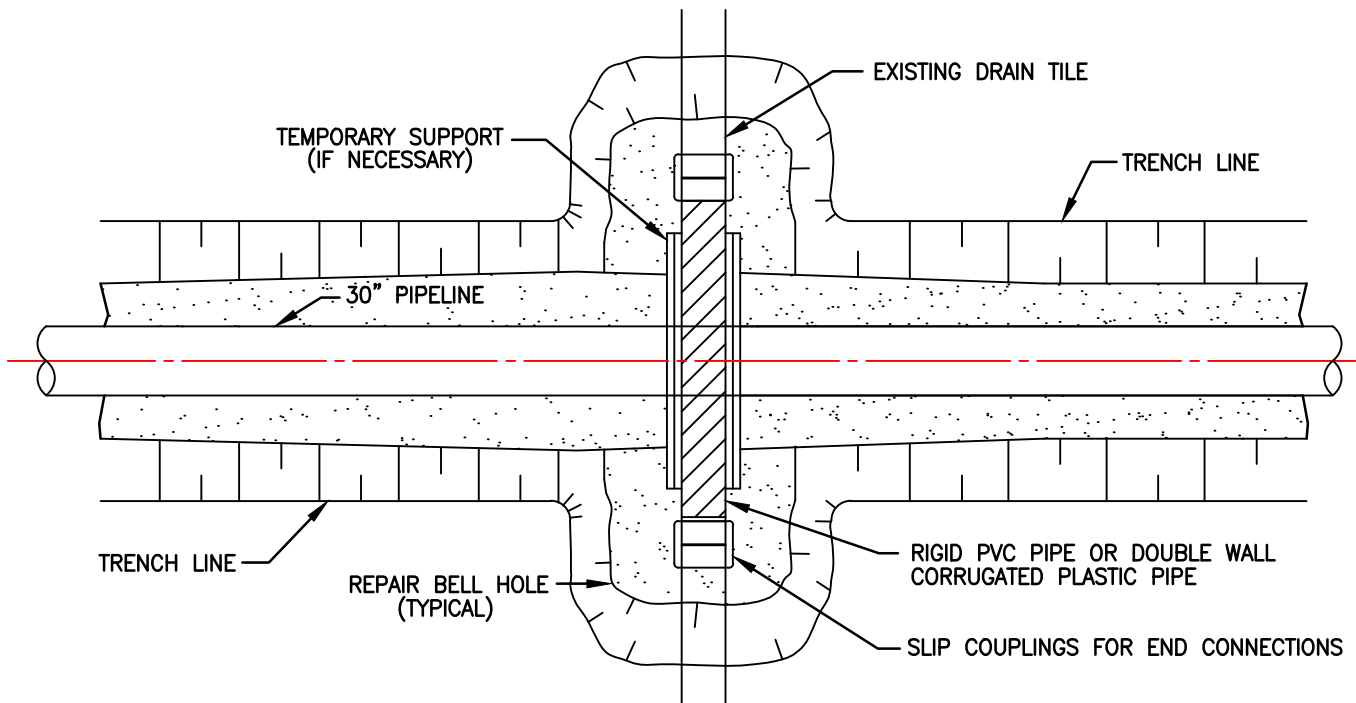


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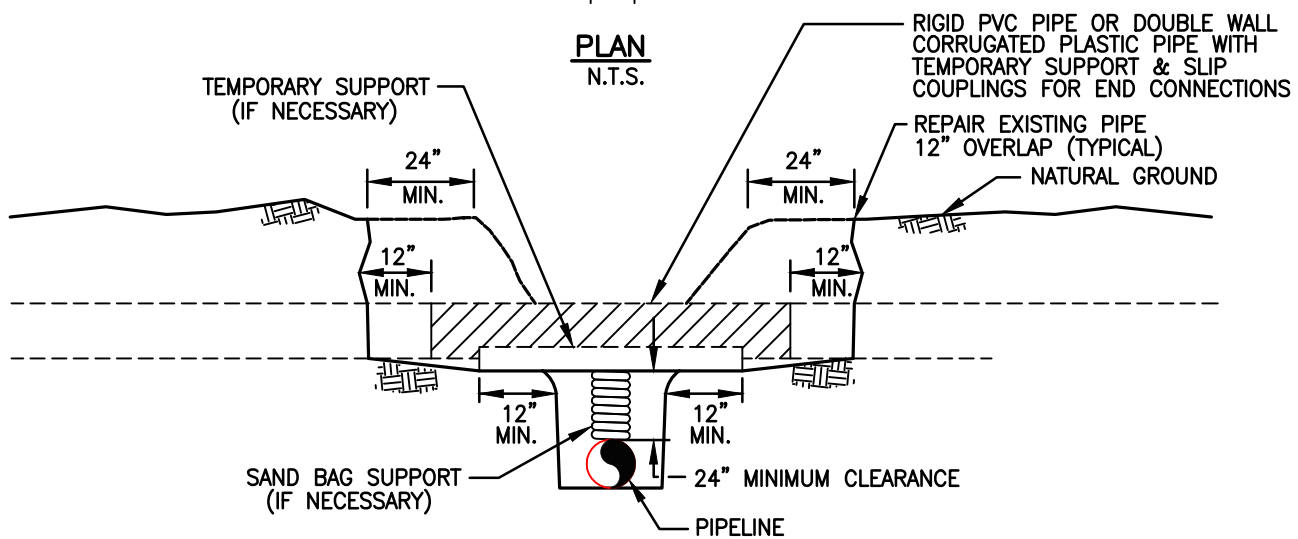
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PLAN
N.T.S.



CROSS SECTION
N.T.S.

NOTES:

1. IMMEDIATELY REPAIR TILE IF WATER IS FLOWING THROUGH TILE AT TIME OF TRENCHING.
2. SCREEN ALL EXPOSED ENDS OF TILE LINES.

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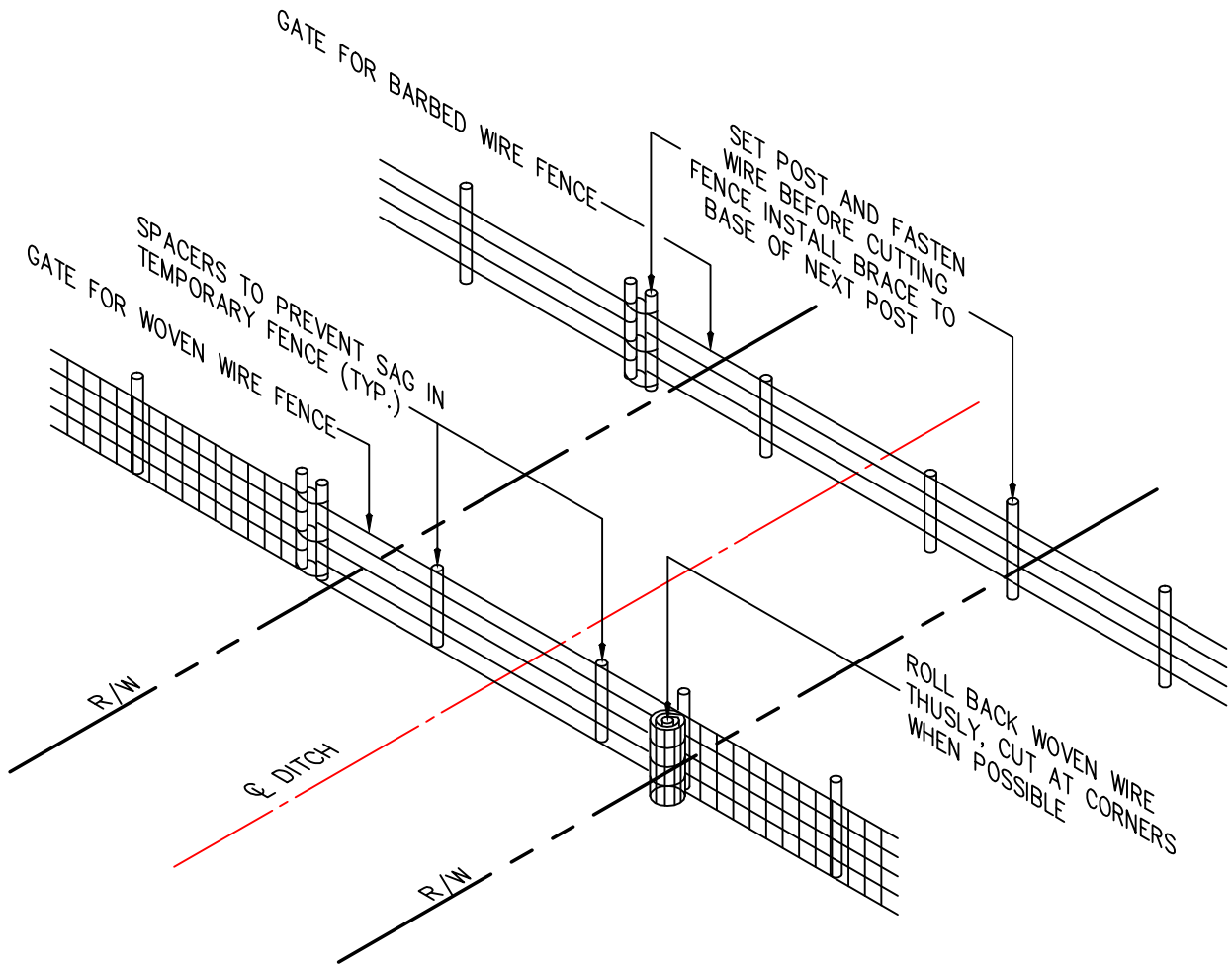


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**TYPICAL
DRAINAGE AND IRRIGATION
TEMPORARY DRAIN TILE REPAIR (TDR)**

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NOTE:

1. CATTLE AND LIVESTOCK MUST BE MOVED TO ANOTHER PASTURE OR TEMPORARY FENCED AREA AND THEY MUST CROSS THE RIGHT-OF-WAY, THEN TRENCH WILL BE BRIDGED AND TEMPORARY FENCING WILL BE INSTALLED.

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PROJECT NO: 10395700

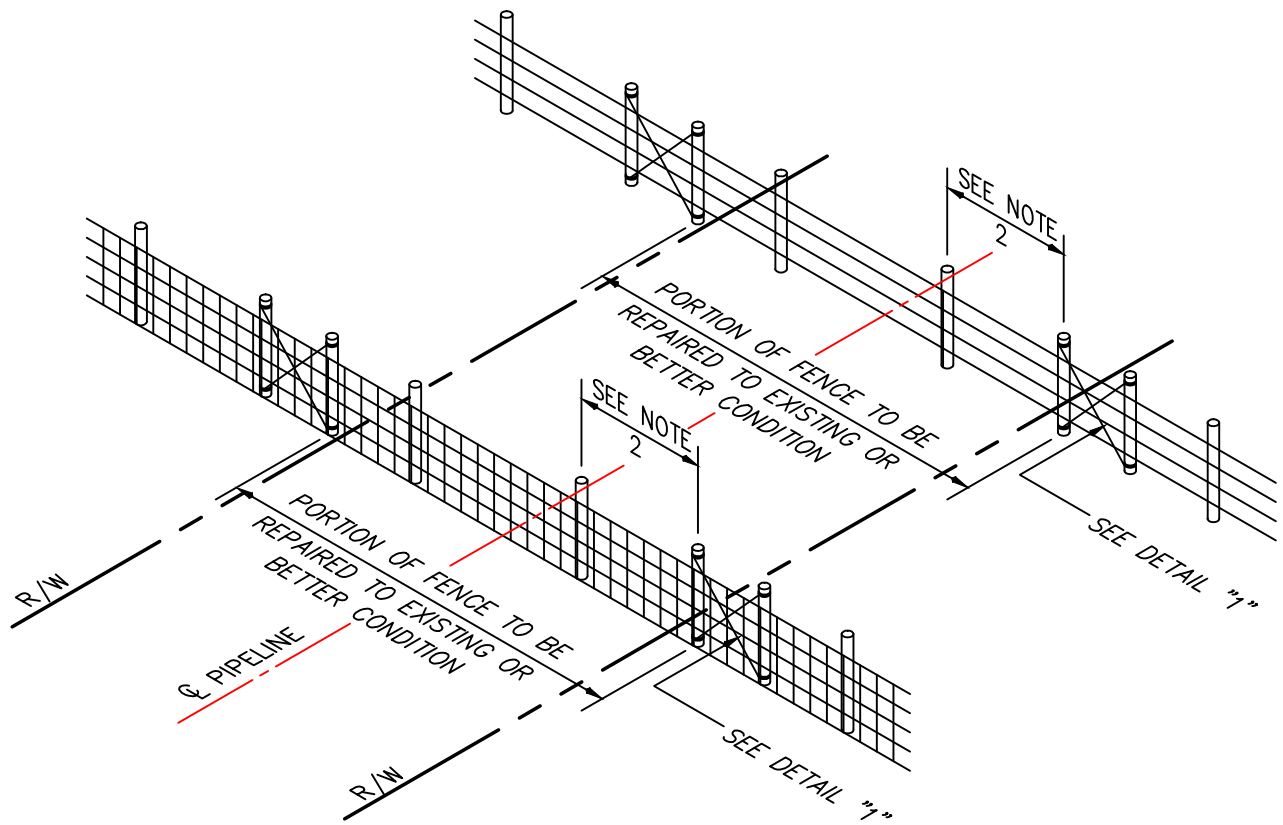


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TYPICAL
**TEMPORARY FENCE DETAIL FOR
WOVEN WIRE & BARBED WIRE FENCES**

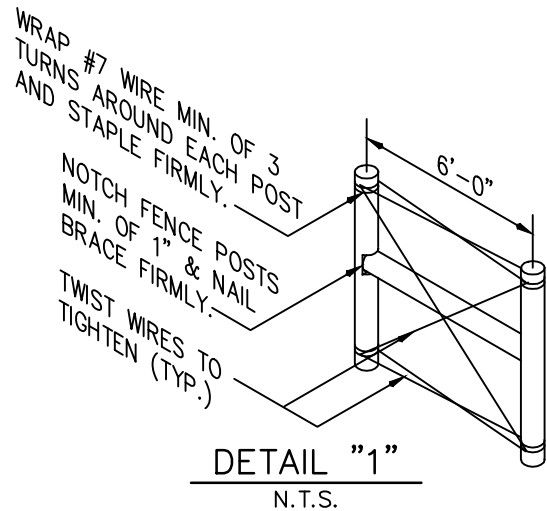
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NOTES:

1. ALL NEW FENCE POSTS MUST EXTEND A MINIMUM OF 2' BELOW GRADE & HAVE A HEIGHT EQUAL TO EXISTING POSTS.
2. POST TO BE A MAXIMUM OF 10' CENTER TO CENTER.
3. POST AT EACH END OF REPAIRED SECTION TO BE H BRACED TO THE ADJOINING POSTS.
4. ALL FENCES SHALL BE REPAIRED WITH NEW WIRE OF LIKE MESH AS EXISTING FENCE, OR WIRE MATCHING EXISTING GAUGE AND SPECIFICATIONS & OF THE SAME NUMBER OF STRANDS & NUMBER OF WIRES EXISTING ON THE FENCE PRIOR TO CONSTRUCTION OF THE PIPELINE.
5. ALL POST ON PERMANENT RIGHT OF WAY TO BE PAINTED PER COMPANY PAINTING SPECIFICATIONS.
6. RIGHT-OF-WAY SHALL BE RESTORED TO ORIGINAL CONDITION
7. CATTLE AND LIVESTOCK MAY BE MOVED TO ANOTHER PASTURE OR TEMPORARY FENCED AREA DURING RESTORATION PERIOD PER LAND OWNERS AGREEMENT.



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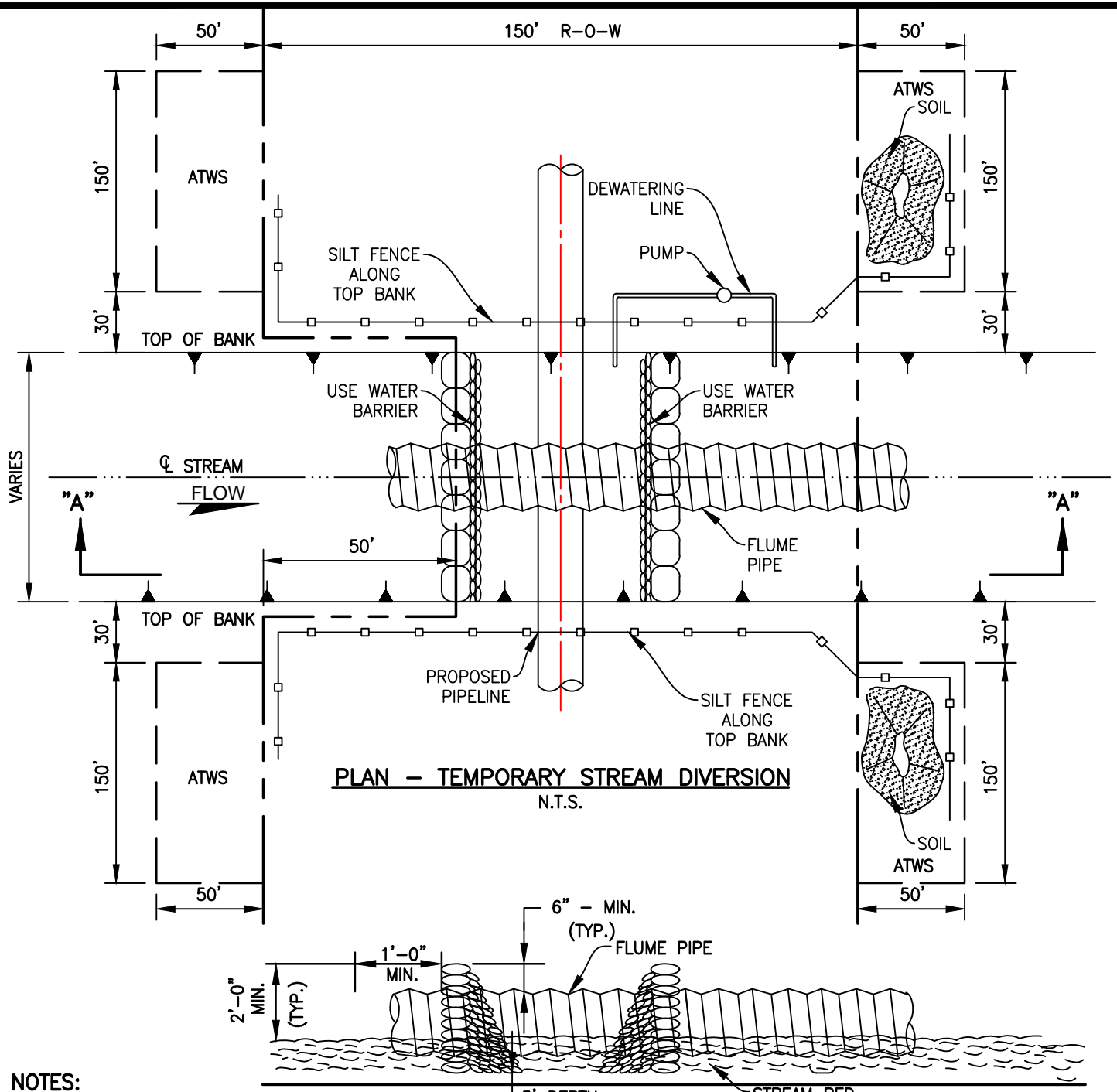


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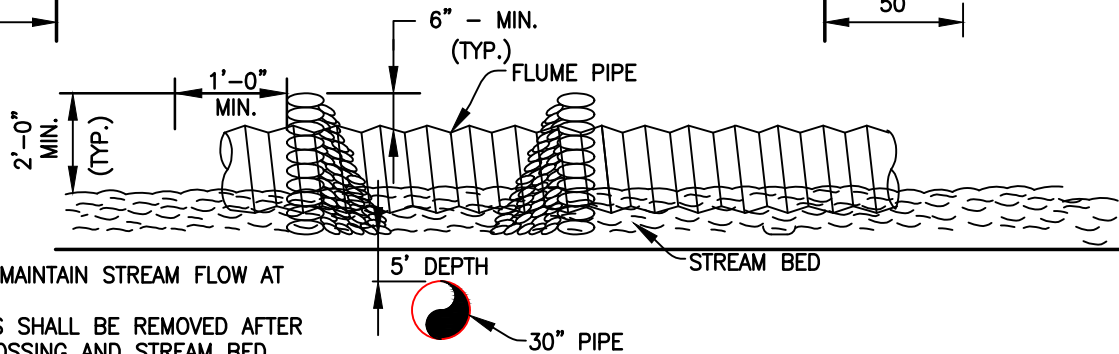
**TYPICAL
WOVEN WIRE & BARBED WIRE FENCE
REPLACEMENT FENCE DETAIL**

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PLAN - TEMPORARY STREAM DIVERSION
N.T.S.



SECTION "A-A"
N.T.S.

ECD:
EROSION CONTROL DEVICE
(SILT FENCE, STRAW BALES OR SANDBAGS).

- NOTES:**
1. CONTRACTOR SHALL MAINTAIN STREAM FLOW AT ALL TIMES.
 2. ALL WATER BARRIERS SHALL BE REMOVED AFTER INSTALLATION OF CROSSING AND STREAM BED AND BANKS SHALL BE RESTORED TO ORIGINAL SHAPE AND ELEVATION.
 3. SIZE OF FLUME PIPE MUST BE SUFFICIENT FOR FLOW.

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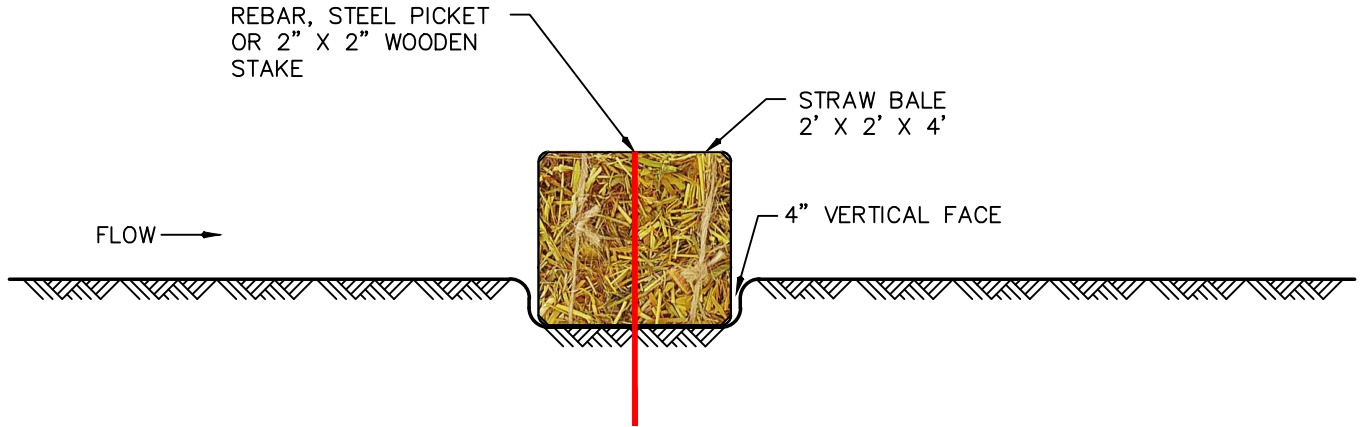


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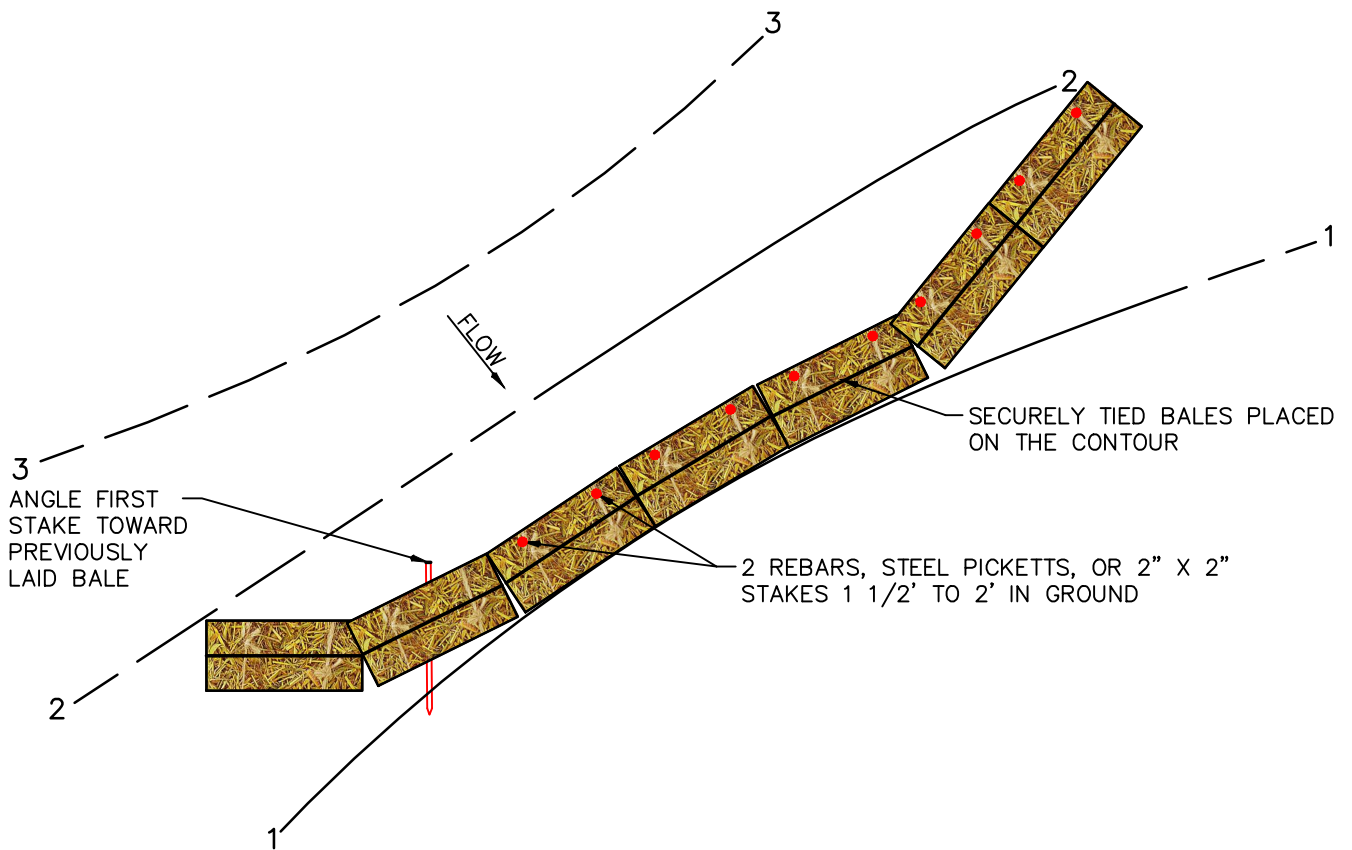
**TYPICAL
PROPOSED PIPELINE
TEMPORARY FLUME CROSSING**

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EMBEDDING DETAIL



NOTE:

1. ALL CONTROL DEVICES SIMILAR TO SILT FENCE OR FIBER ROLLS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/3 OF THE HEIGHT OF THE DEVICE. THESE REPAIRS MUST BE MADE WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

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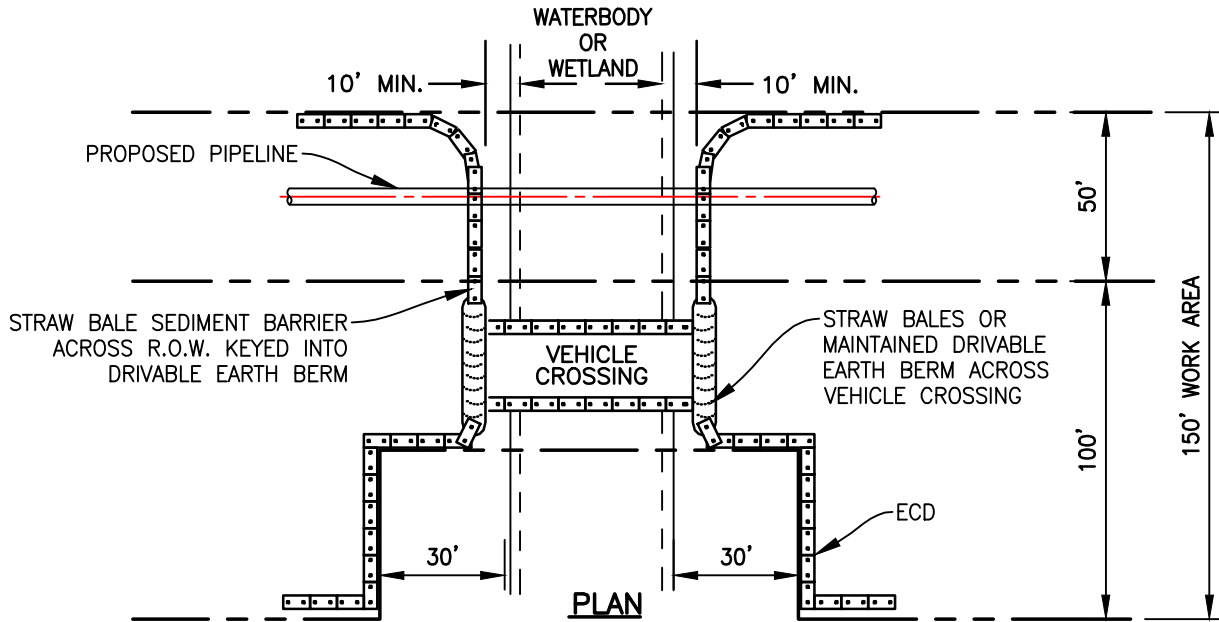


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TYPICAL
STRAW BALE FILTER

| | | | |
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INSTALLATIONS AT VEHICLE CROSSINGS OF WATERBODIES AND WETLANDS



ECD:

EROSION CONTROL DEVICE
(SILT FENCE, STRAW BALES OR SANDBAGS).

STRAW BALES OR
MAINTAINED DRIVABLE EARTH BERM
ACROSS VEHICLE CROSSING



PROFILE

NOTES:

1. PLACE STRAW BALES SO THEY ARE EFFECTIVE BUT DO NOT HINDER CONSTRUCTION. IF NECESSARY, A 15' GAP IN STRAW BALE BARRIERS SHALL BE PROVIDED, AS NEEDED, TO ACCOMMODATE TRAFFIC ON TEMPORARY CONSTRUCTION ROADS. THE GAP SHALL BE CLOSED AT THE END OF EACH WORK DAY USING STRAW BALE BARRIERS, OR A DRIVABLE EARTH BERM TIED INTO ADJACENT STRAW BALES. THE BALES USED TO CLOSE THE GAP SHALL BE PLACED ON THE UPHILL SIDE OF THE STRAW BALE BARRIER, THE END BALES OF THE GAP SEGMENT SHALL OVERLAP A MINIMUM OF 12".
2. A MAINTAINED DRIVABLE EARTH BERM MAY BE INSTALLED ACROSS VEHICLE CROSSING IN LIEU OF STRAW BALES DURING ACTIVE CONSTRUCTION.
3. BERM MUST BE TIED INTO STRAW BALES.
4. BERM MUST BE MAINTAINED TO ENSURE SEDIMENT TRAPPING CAPACITY.
5. WHEN ACTIVE CONSTRUCTION IS COMPLETE, INSTALL STRAW BALES ACROSS ENTIRE R.O.W.
6. MONITOR FOR UNDERMINING OR FLOW-AROUND. INSPECT BALE POSITION TO ASSURE THAT THEY REMAIN CLOSE TOGETHER. MAINTAIN STRAW BALE BARRIERS BY REPLACING DAMAGED BALES AND REMOVING SEDIMENT LOAD. WHEN SEDIMENT LOAD IS GREATER THAN 1/3 THE HEIGHT OF THE BARRIER, SEDIMENT SHALL BE REMOVED AND PLACED IN AN AREA WHERE IT SHALL NOT REENTER THE BARRIER OR A WATERWAY. IF SEDIMENT BEHIND STRAW BALE BARRIERS CANNOT BE REMOVED, A SECOND ROW OF BALES SHALL BE INSTALLED UPSLOPE OF THE BARRIER.
7. WHERE STRAW BALES AND SILT FENCE ARE INSTALLED AS A UNIT, THE STRAW BALES SHALL BE INSTALLED ON THE DOWN SLOPE SIDE OF THE SILT FENCE.
8. EROSION CONTROL STRUCTURES SHALL BE INSPECTED DAILY IN AREAS OF ACTIVE CONSTRUCTION. STRUCTURES SHALL BE INSPECTED WEEKLY AT INACTIVE CONSTRUCTION AREAS AND WITHIN 24 HOURS OF EACH RAINFALL EVENT WITH 0.5 INCH OR MORE. STRUCTURES SHALL BE REPAIRED AS NECESSARY.
9. STRAW BALE BARRIERS SHALL BE REMOVED ONLY AS DIRECTED BY THE PIPELINE INSPECTOR.

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TYPICAL
EROSION CONTROL
STRAW BALE SEDIMENT BARRIER

| | | | |
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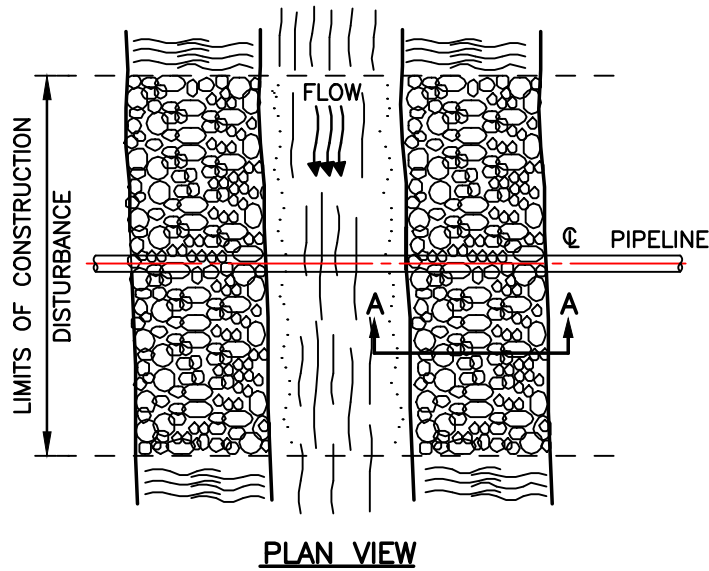
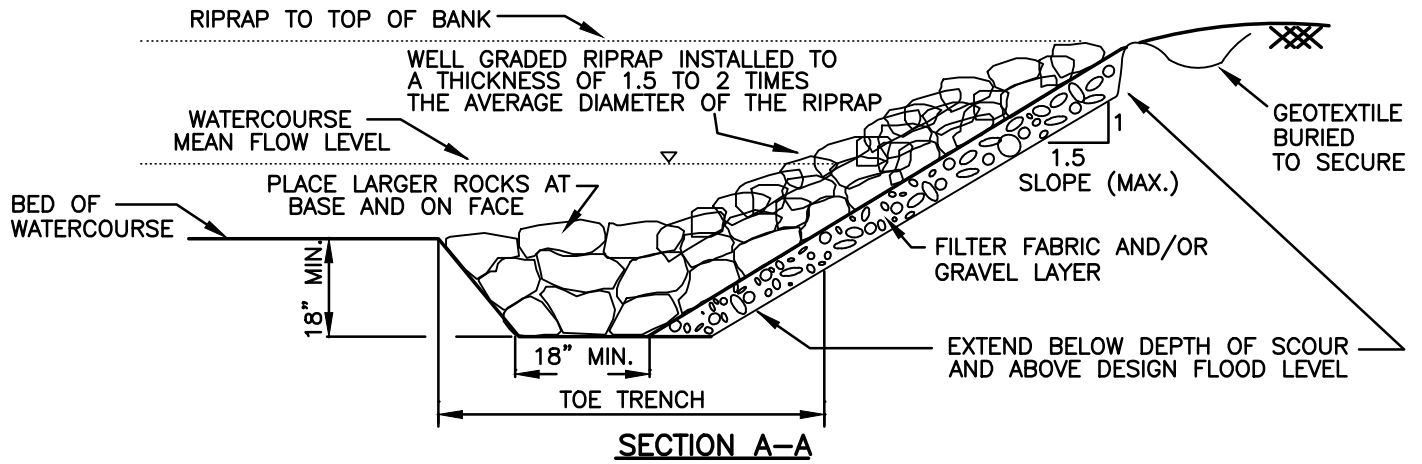


Table 256-1
Riprap Gradations

| Grade I | | Grade II | | Grade III | |
|---------------|-----------------|---------------|-----------------|---------------|-----------------|
| Size (Inches) | Percent Smaller | Size (Inches) | Percent Smaller | Size (Inches) | Percent Smaller |
| 20 | 100 | 28 | 100 | 36 | 100 |
| 18 | 70-90 | 22 | 30-80 | 29 | 55-85 |
| 15 | 40-60 | 16 | 20-50 | 24 | 35-50 |
| 10 | 0-10 | 10 | 0-5 | 10 | 10-15 |
| 6 | 0-2 | 6 | 0-2 | 6 | 0-2 |

NOTES:

- STREAM BANK RIPRAP STRUCTURES SHALL CONSIST OF A LAYER OF STONE UNDERLAIN WITH APPROVED GEOTEXTILE FILTER FABRIC OR A GRAVEL FILTER BLANKET DESIGNED TO PROTECT AND STABILIZE AREAS PRONE TO EROSION.
- GRAVEL FILTER BLANKET SHALL MEET THE FOLLOWING SPECIFICATIONS:
 - HAVE A PERMEABILITY GREATER THAN THAT OF THE SUBGRADE SOIL;
 - IF A WELL-GRADED GRAVEL OR SAND-GRAVEL LAYER IS USED, THE LAYER SHALL BE A MINIMUM OF 6" THICK AND SPREAD IN A UNIFORM LAYER OVER THE SUBGRADE;
 - IF WATER TURBULENCE COULD RESULT IN EROSION OF BANK MATERIAL BETWEEN LARGE ROCKS (AS DETERMINED BY THE REPRESENTATIVE ENVIRONMENTAL INSPECTOR), A GEOTEXTILE FILTER FABRIC SHALL BE USED BETWEEN THE GRAVEL LAYER AND THE RIPRAP.
- THE GEOTEXTILE FILTER FABRIC SHALL BE PERMATEX 4000 SERIES OR AN APPROVED EQUIVALENT MEETING THE FOLLOWING SPECIFICATIONS:
 - (A) BE COMMERCIAL QUALITY NONWOVEN FABRIC DESIGNED FOR RIPRAP UNDERLAYMENT;
 - (B) BE A MINIMUM OF 20 MILS IN THICKNESS;
 - (C) HAVE A GRAB STRENGTH BETWEEN 90 TO 120 POUNDS;
 - (D) HAVE A GREATER THAN 4% OPEN AREA (U.S. STANDARD SIEVE NUMBER 100 (0.15 MM.);
 - (E) HAVE A DENSITY OF 8 oz. PER SQUARE YARD.
- THE USE OF RIPRAP SHALL BE LIMITED TO AREAS WHERE FLOWING CONDITIONS PREVENT EFFECTIVE VEGETATIVE STABILIZATION TECHNIQUES.



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TYPICAL
EROSION CONTROL
RIPRAP AT WATERBODY BANKS

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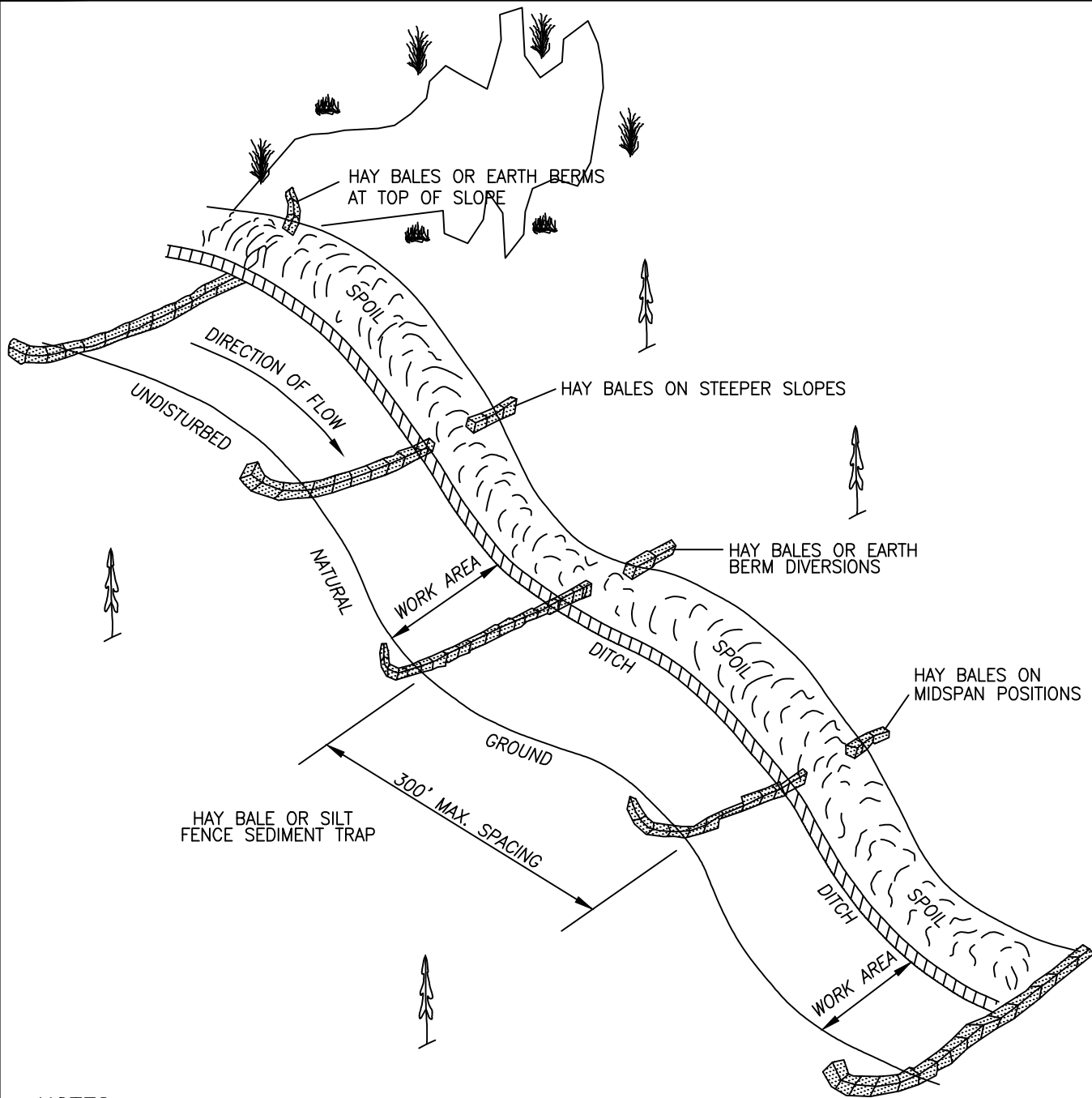


WOOD GROUP MUSTANG, INC.

PROJECT NO: 10395700

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NOTES:

1. OUTLET INTO AREAS STABILIZED BY EXISTING VEGETATION OR INSTALL STAKED HAY/STRAW BALES/SILT FENCE.
2. TOPSOIL MAY NOT BE USED FOR SLOPE BEARKERS.

| DEGREES | SPACING |
|---------|--------------|
| 5-15 | 300 ft. MAX. |
| 15-30 | 200 ft. MAX. |
| > 30 | 100 ft. MAX. |

| REV. | DATE | BY | DESCRIPTION | CHK. |
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| 0 | 12/15/14 | JEG | ISSUED FOR USE | RC |

PROJECT NO.



WOOD GROUP MUSTANG, INC.

PROJECT NO: 10395700

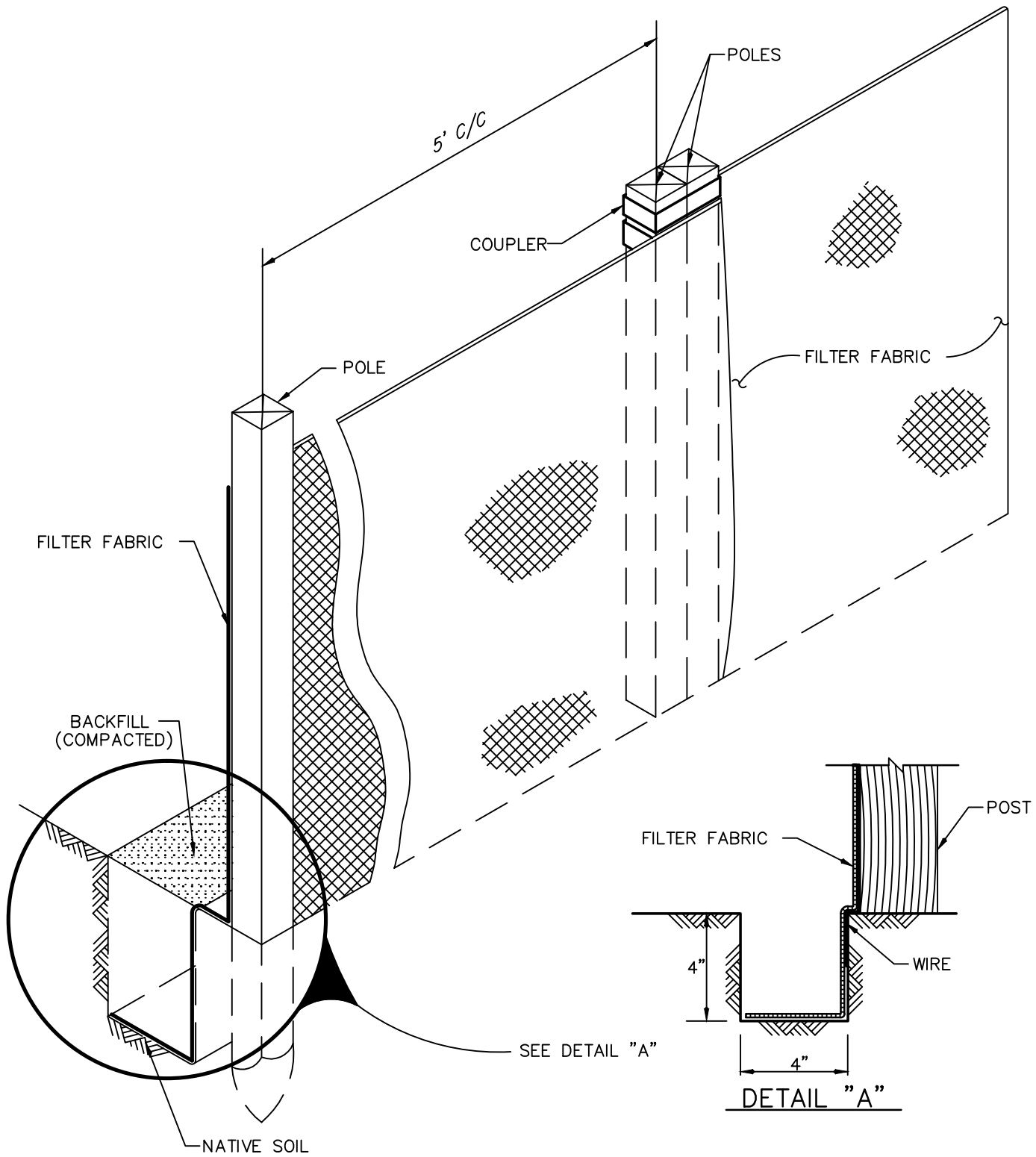


DAKOTA ACCESS, LLC
An ENERGY TRANSFER Company

**TYPICAL
TEMPOARY SLOPE BREAKERS
SLOPE DIRRECTION WITH SLOPE**

| | | | |
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| DRAWN BY: DAH | DATE: 08/07/14 | DWG. NO. | REV. |
| CHECKED BY: DAH | DATE: 08/07/14 | P12-10 | 0 |
| SCALE: N.T.S. | APP.: | | |

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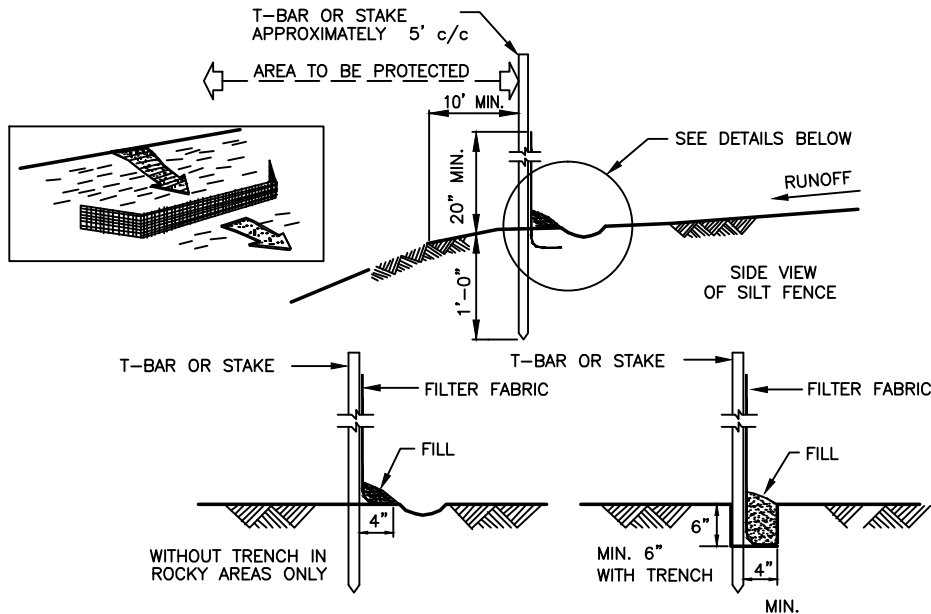
WOOD GROUP MUSTANG, INC.
PROJECT NO: 10395700



DAKOTA ACCESS, LLC
An ENERGY TRANSFER Company

TYPICAL
SILT FENCE

| | | | |
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| DRAWN BY: DAH | DATE: 08/07/14 | DWG. NO. | REV. |
| CHECKED BY: DAH | DATE: 08/07/14 | P12-11 | 0 |
| SCALE: N.T.S. | APP.: | | |




NOTE:

1. GENERALLY WHEN A LONG SEDIMENT BARRIER IS REQUIRED, SILT FENCE WILL BE UTILIZED RATHER THAN STRAW BALES AT:
 - THE BASE OF ALL SLOPES ABOVE ROADS, SPRINGS, WETLANDS, IMPOUNDMENTS AND PERENNIAL AND INTERMITTENT STREAMS.
 - THE DOWN SLOPE RIGHT-OF-WAY EDGE WHERE ANY OF THE ABOVE MENTIONED LOCATIONS ARE ADJACENT TO THE RIGHT-OF-WAY.
 - ALONG R.O.W. BOUNDARIES OF WETLAND CONSTRUCTION.
 - ACROSS CONSTRUCTION R.O.W. AT ALL WATERBODY CROSSINGS.
 - AS SPECIFIED IN THE SPILL PREVENTION, CONTAINMENT, AND COUNTERMEASURE PLAN.
 - AS DIRECTED BY THE INSPECTOR.
2. THE SILT FENCE SHALL BE CONSTRUCTED AS FOLLOWS:
 - FABRIC USED FOR THE SILT FENCE SHALL BE A "STANDARD STRENGTH" GEOTEXTILE, SUCH AS MIRAFI 100X OR AN APPROVED EQUIVALENT.
 - THE FABRIC SHALL BE CUT FROM A CONTINUOUS FABRIC ROLL.
 - THE HEIGHT OF THE FENCE SHALL NOT EXCEED 36".
 - SPLICES SHALL ONLY BE DONE AT POSTS AND SHALL CONSIST OF A MINIMUM OF 6" OF OVERLAP WITH BOTH ENDS SECURED TO THE POST.
 - POSTS SHALL BE POSITIONED A MAXIMUM OF 5' APART.
 - POSTS SHALL CONSIST OF 2"x2" WOODEN STAKES OF SUFFICIENT LENGTH TO EXTEND A MINIMUM OF 12" INTO THE GROUND.
 - FABRIC SHALL BE STAPLED OR WIRED TO POSTS A MAXIMUM OF EVERY 9".
3. THE SILT FENCE SHALL BE INSTALLED AS SPECIFIED BY THE MANUFACTURER OR AS FOLLOWS:
 - A TRENCH, 4" WIDE AND 6" DEEP, SHALL BE EXCAVATED ALONG THE CONTOUR. THE POST SHALL BE DRIVEN INTO THE BOTTOM OF THE TRENCH ON THE DOWNSTREAM SIDE OF THE FILTER FABRIC. THE TRENCH SHALL BE BACK FILLED AND COMPACTED, ENSURING 6" OF FENCE IS BURIED WITHIN THE TRENCH.
 - IN AREAS WHERE THE TERRAIN IS TOO ROCKY FOR TRENCHING, A 4" GROUND FLAP WITH ROCK FILL TO HOLD IT IN PLACE SHALL BE USED.
4. ALL CONTROL DEVICES SIMILAR TO SILT FENCE OR FIBER ROLLS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/3 OF THE HEIGHT OF THE DEVICE. THESE REPAIRS MUST BE MADE WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

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|  WOOD GROUP MUSTANG, INC. PROJECT NO: 10395700 | | | | |



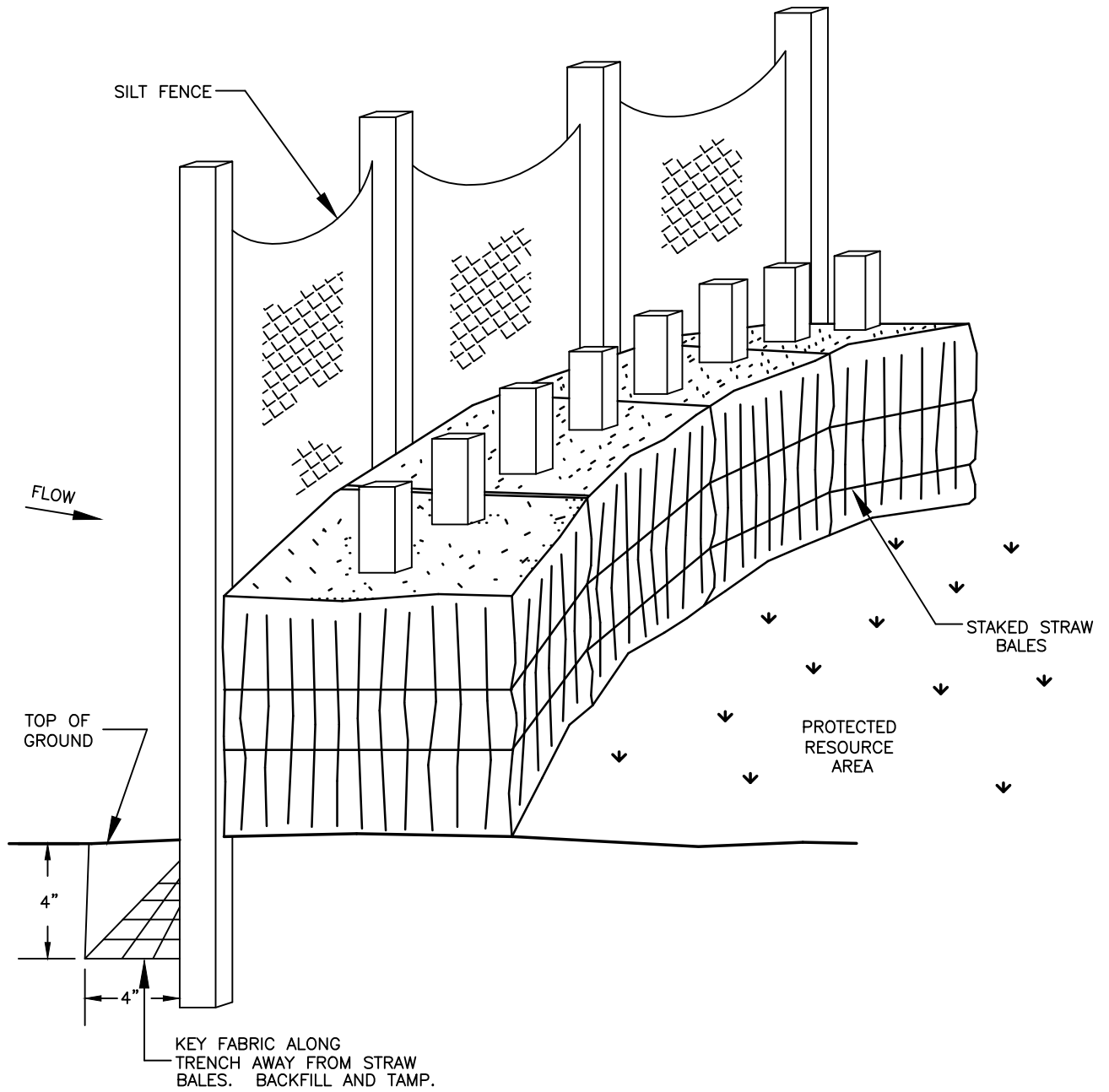
DAKOTA ACCESS, LLC
An ENERGY TRANSFER Company

**TYPICAL
EROSION CONTROL
SILT FENCE SEDIMENT BARRIER**

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| DRAWN BY: DAH | DATE: 08/07/14 | DWG. NO. | REV. |
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1. WHERE EXTREMELY ERODIBLE SOIL CONDITIONS EXIST AND AT THE DIRECTION OF THE INSPECTOR, A COMBINED STRAW BALE AND SILT FENCE SEDIMENT CONTROL BARRIER SHALL BE INSTALLED.
2. ALL CONTROL DEVICES SIMILAR TO SILT FENCE OR FIBER ROLLS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/3 OF THE HEIGHT OF THE DEVICE. THESE REPAIRS MUST BE MADE WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.



DAKOTA ACCESS, LLC
An ENERGY TRANSFER Company

TYPICAL
EROSION CONTROL
STRAW BALE AND SILT FENCE

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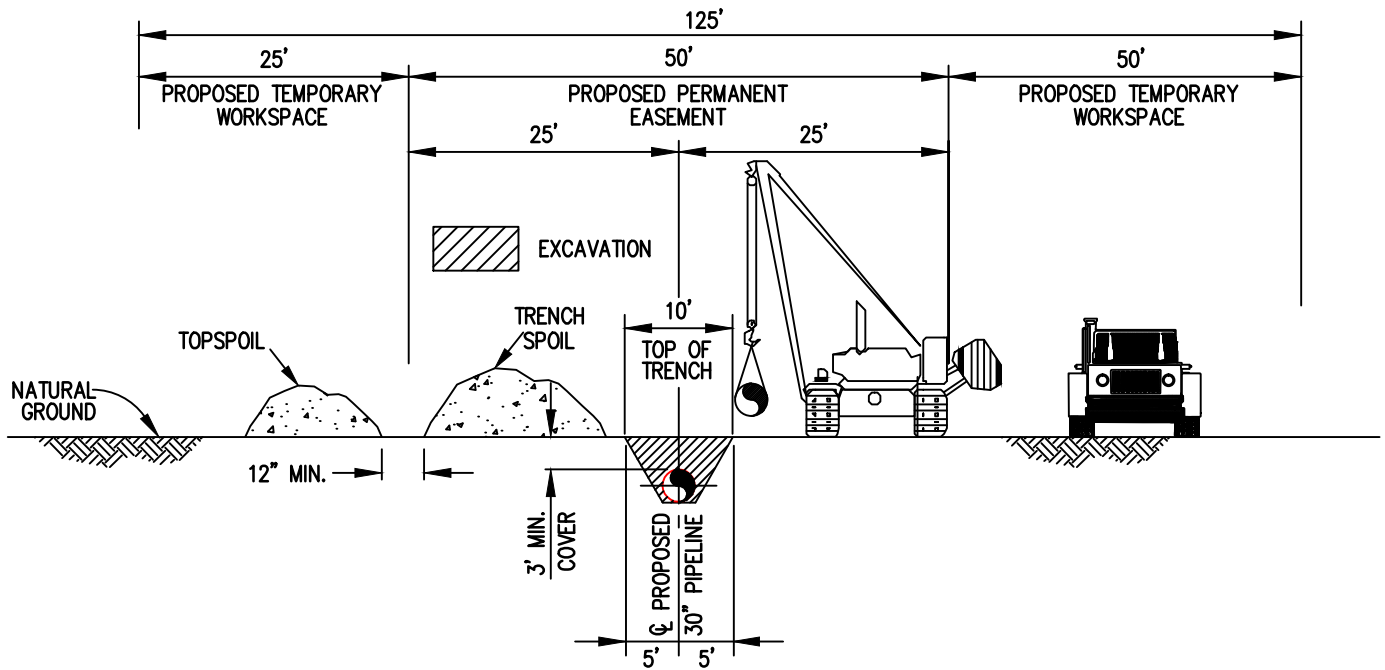


WOOD GROUP MUSTANG, INC.

PROJECT NO: 10395700

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NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 125 FEET WIDE CONSISTING OF 50 FEET PERMANENT EASEMENT AND UP TO 50 FEET OF TEMPORARY WORKSPACE. EXTRA TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. UTILIZE THE "TRENCH ONLY" TOPSOIL SALVAGE METHOD AT LOCATIONS SUCH AS RIPARIAN AREAS OR UNMANAGED WOODLAND, WHERE IDENTIFIED ON THE CONSTRUCTION DRAWINGS, OR AS DIRECTED BY THE PIPELINE INSPECTOR.
3. THE TRENCH ONLY METHOD IS NOT TO BE USED ON AGRICULTURAL LAND EXCEPT AS DIRECTED BY THE INSPECTOR (PER LANDOWNER REQUEST).
4. FOR TRENCH ONLY STRIPPING, THE STRIPPED AREA SHALL BE WIDE ENOUGH TO ACCOMMODATE TRENCHING EQUIPMENT.
5. DEPTH OF TOPSOIL STRIPPING NOT TO EXCEED 12 INCHES.
6. STOCKPILE TOPSOIL AS SHOWN OR IN ANY CONFIGURATION APPROVED BY THE PIPELINE INSPECTOR. KEEP TOPSOIL AND SPOIL PILES CLEAN OF ALL CONSTRUCTION DEBRIS. MAINTAIN A MINIMUM 12 INCHES OF SEPERATION BETWEEN TOPSOIL AND TRENCH SPOIL PILES.
7. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH UPLAND SOILS INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING.
8. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING SPOIL AND TOPSOIL PILES.
9. SAME LAYOUT APPLIES WHERE CONSTRUCTION R.O.W. DOES NOT ABUT EXISTING R.O.W.
10. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.
11. TOPSOIL AND TRENCH SPOIL RELATIVE POSITIONS CAN, AS DIRECTED BY THE PIPELINE INSPECTOR, BE REVERSED.

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PROJECT NO.



WOOD GROUP MUSTANG, INC.
PROJECT NO: 10395700

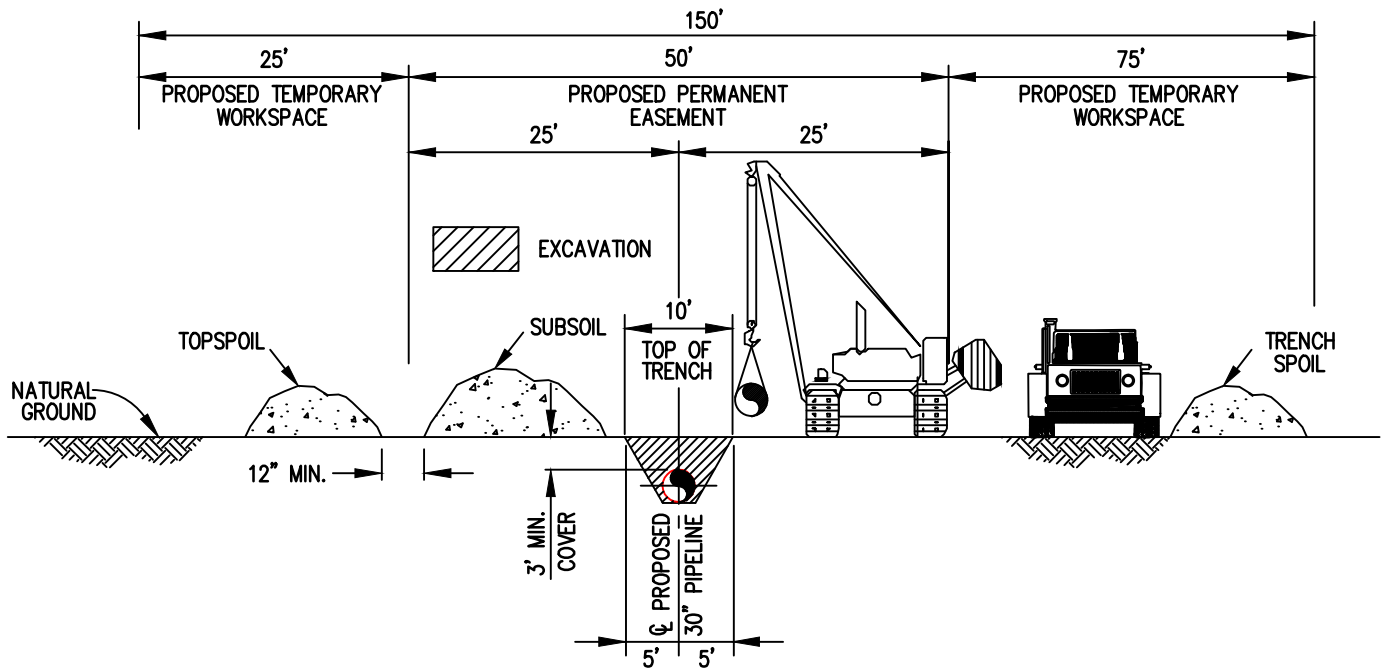


DAKOTA ACCESS, LLC
An ENERGY TRANSFER Company

TYPICAL
**CONSTRUCTION RIGHT-OF-WAY ARRANGEMENT
(DOUBLE DITCH)**

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| DRAWN BY: DAH | DATE: 08/07/14 | DWG. NO. | REV. |
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NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 150 FEET WIDE CONSISTING OF 50 FEET PERMANENT EASEMENT AND UP TO 75 FEET OF TEMPORARY WORKSPACE. EXTRA TEMPORARY WORK SPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL AND RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. UTILIZE THE "TRENCH ONLY" TOPSOIL SALVAGE METHOD AT LOCATIONS SUCH AS RIPARIAN AREAS OR UNMANAGED WOODLAND, WHERE IDENTIFIED ON THE CONSTRUCTION DRAWINGS, OR AS DIRECTED BY THE PIPELINE INSPECTOR.
3. THE TRENCH ONLY METHOD IS NOT TO BE USED ON AGRICULTURAL LAND EXCEPT AS DIRECTED BY THE INSPECTOR (PER LANDOWNER REQUEST).
4. FOR TRENCH ONLY STRIPPING, THE STRIPPED AREA SHALL BE WIDE ENOUGH TO ACCOMMODATE TRENCHING EQUIPMENT.
5. DEPTH OF TOPSOIL STRIPPING NOT TO EXCEED 12 INCHES.
6. STOCKPILE TOPSOIL AS SHOWN OR IN ANY CONFIGURATION APPROVED BY THE PIPELINE INSPECTOR. KEEP TOPSOIL AND SPOIL PILES CLEAN OF ALL CONSTRUCTION DEBRIS. MAINTAIN A MINIMUM 12 INCHES OF SEPERATION BETWEEN TOPSOIL AND SUBSOIL PILES.
7. LEAVE GAPS IN TOPSOIL AND SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH UPLAND SOILS INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING.
8. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING SPOIL AND TOPSOIL PILES.
9. SAME LAYOUT APPLIES WHERE CONSTRUCTION R.O.W. DOES NOT ABUT EXISTING R.O.W.
10. TEMPORARILY SUSPEND TOPSOIL HANDLING OPERATIONS DURING INORDINATELY WINDY CONDITIONS UNTIL MITIGATIVE MEASURES TO MINIMIZE WIND EROSION CAN BE IMPLEMENTED.
11. TOPSOIL AND TRENCH SPOIL RELATIVE POSITIONS CAN, AS DIRECTED BY THE PIPELINE INSPECTOR, BE REVERSED.


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PROJECT NO.



WOOD GROUP MUSTANG, INC.

PROJECT NO: 10395700

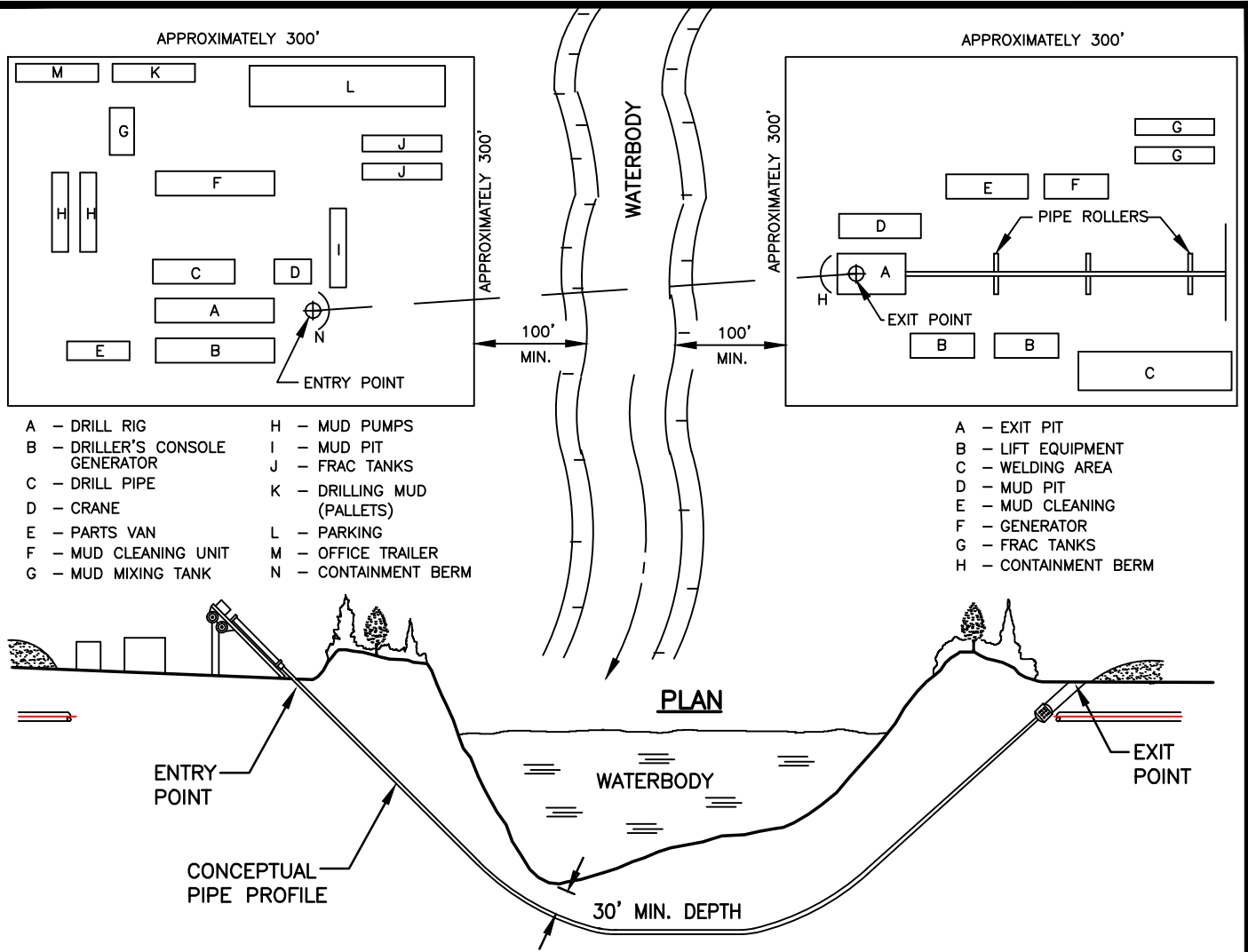


DAKOTA ACCESS, LLC
An ENERGY TRANSFER Company

TYPICAL
**CONSTRUCTION RIGHT-OF-WAY ARRANGEMENT
(TRIPLE DITCH)**

| | | | |
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- A - DRILL RIG
- B - DRILLER'S CONSOLE GENERATOR
- C - DRILL PIPE
- D - CRANE
- E - PARTS VAN
- F - MUD CLEANING UNIT
- G - MUD MIXING TANK
- H - MUD PUMPS
- I - MUD PIT
- J - FRAC TANKS
- K - DRILLING MUD (PALLETS)
- L - PARKING
- M - OFFICE TRAILER
- N - CONTAINMENT BERM

- A - EXIT PIT
- B - LIFT EQUIPMENT
- C - WELDING AREA
- D - MUD PIT
- E - MUD CLEANING
- F - GENERATOR
- G - FRAC TANKS
- H - CONTAINMENT BERM

PROFILE

NOTES:

1. SET UP DRILLING EQUIPMENT A MINIMUM OF 300 FEET FROM THE EDGE OF THE WATERCOURSE. DO NOT CLEAR OR GRADE WITHIN THE 100 FOOT ZONE.
2. DO NOT ALLOW THE USE OF ANY ADDITIVES TO THE DRILLING MUD WITHOUT THE APPROVAL OF THE APPROPRIATE REGULATORY AUTHORITIES AND CLIENTS REPRESENTATIVE.
3. INSTALL SUITABLE DRILLING MUD TANKS OR SUMPS TO PREVENT CONTAMINATION OF WATERCOURSE.
4. INSTALL BERMS DOWNSLOPE FROM THE DRILL ENTRY AND ANTICIPATED EXIT POINTS TO CONTAIN ANY RELEASE OF DRILLING MUD.
5. DISPOSE OF DRILLING MUD IN ACCORDANCE WITH THE APPROPRIATE REGULATORY AUTHORITY REQUIREMENTS.


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WOOD GROUP MUSTANG, INC.

PROJECT NO: 10395700

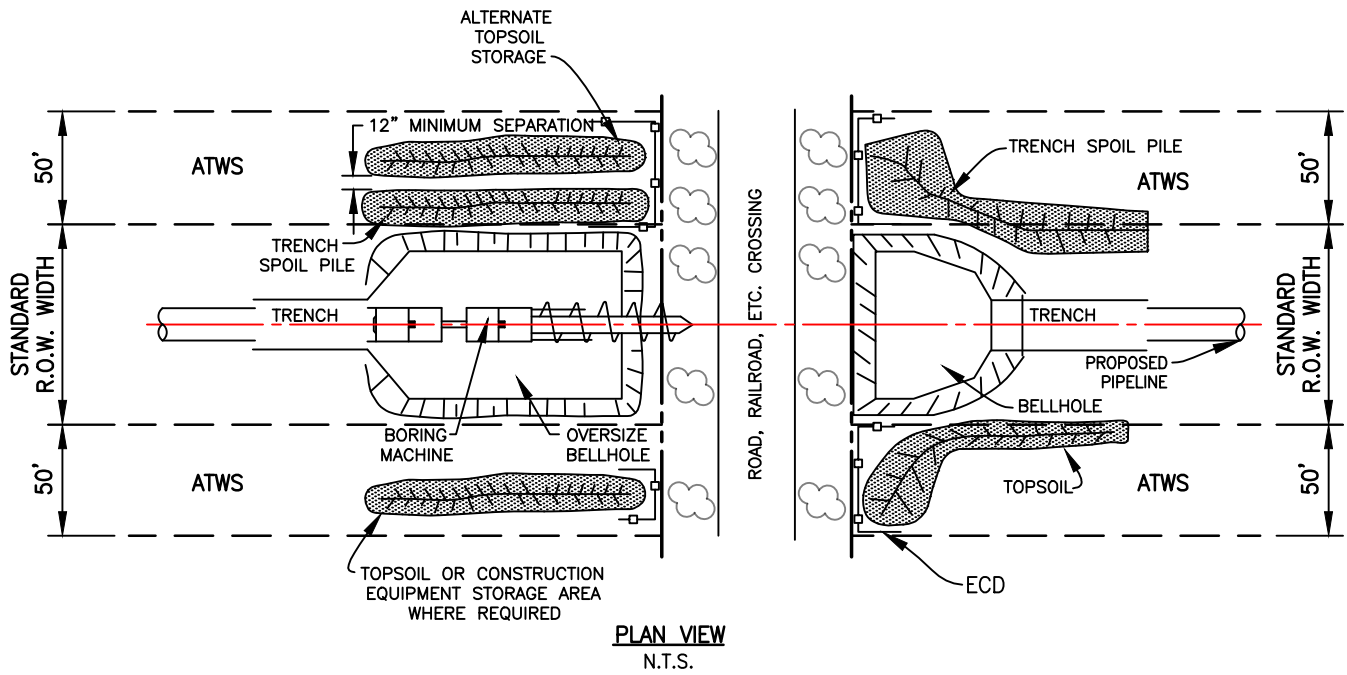


DAKOTA ACCESS, LLC
An ENERGY TRANSFER Company

TYPICAL
**WATERBODY CROSSING
HORIZONTAL DIRECTIONAL DRILL**

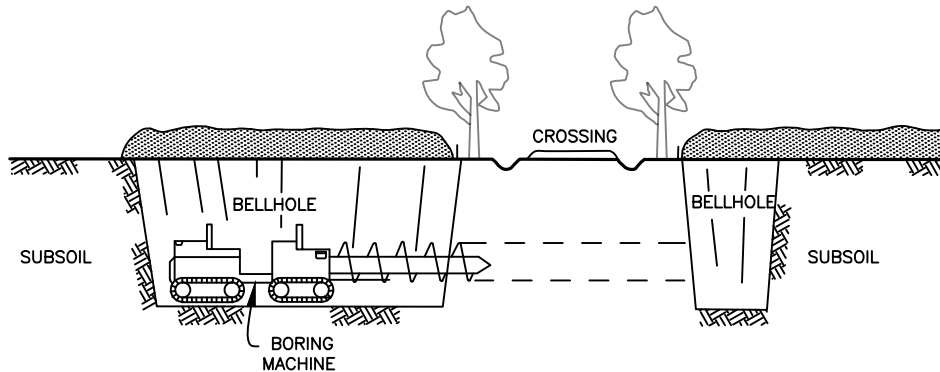
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PLAN VIEW
N.T.S.

ECD:
EROSION CONTROL DEVICE
(SILT FENCE, STRAW BALES OR SANDBAGS).



PROFILE
N.T.S.

NOTES:

1. STRIP TOPSOIL FROM BELLHOLE AREA IN UNMANAGED WOODLANDS. STRIP TOPSOIL FROM THE BELLHOLE AND SPOIL STORAGE AREA ON AGRICULTURAL LAND.
2. EXCAVATE BELLHOLE, STORING TRENCH SPOIL ON OPPOSITE SIDE OF RIGHT-OF-WAY FROM TOPSOIL, OR ADJACENT TO TOPSOIL MAINTAINING A 12" MINIMUM SEPARATION TO AVOID MIXING TOPSOIL AND TRENCH SPOIL.
3. AFTER COMPLETION OF PIPE TIE-INS, BACKFILL AND COMPACT. LEAVE A CROWN TO ALLOW FOR SUBSIDENCE.
4. INSTALL TEMPORARY EROSION CONTROL PROCEDURES AS SPECIFIED BY THE PIPELINE INSPECTOR.

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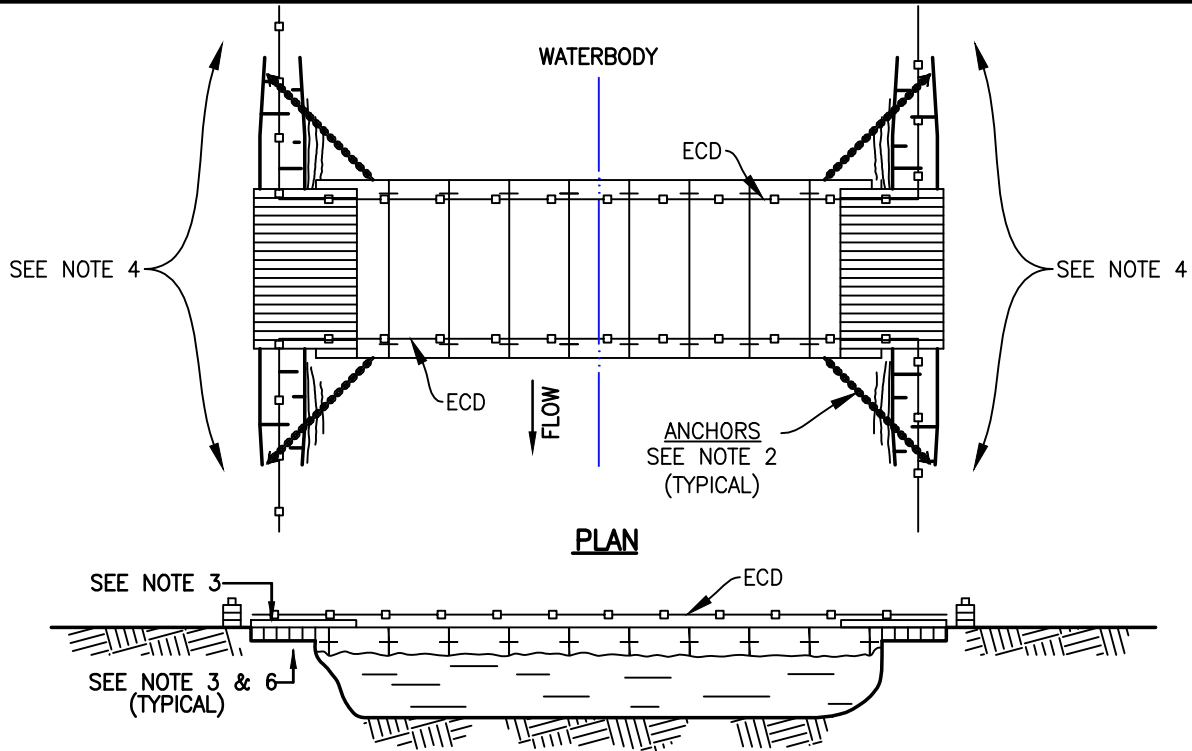


DAKOTA ACCESS, LLC
An ENERGY TRANSFER Company

TYPICAL
TOPSOIL SALVAGE CROSSING BORE (CB)

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| DRAWN BY: DAH | DATE: 08/07/14 | DWG. NO. | REV. |
| CHECKED BY: DAH | DATE: 08/07/14 | P12-17 | 0 |
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ECD:
EROSION CONTROL DEVICE
(SILT FENCE, STRAW BALES OR SANDBAGS).

PROFILE

NOTES:

1. THIS TYPE OF BRIDGE IS GENERALLY USED ON WIDE, CROSSINGS.
2. BRIDGE SHALL BE ANCHORED AND/OR TIED OFF TO ANCHOR BLOCKS FOR STABILITY.
3. IF REQUIRED, UTILIZE APPROACH FILLS OF CLEAN ROCK MATERIAL, SWAMP MATS, SKIDS OR OTHER SUITABLE MATERIALS TO AVOID CUTTING THE BANKS WHEREVER FEASIBLE. ENSURE ADEQUATE FREEBOARD. ENSURE THAT FILL MATERIAL, IF USED, DOES NOT SPILL INTO WATERCOURSE.
4. CONSTRUCT SEDIMENT BARRIERS ACROSS THE ENTIRE CONSTRUCTION R.O.W. TO PREVENT SILT LADEN WATER AND SPOIL FROM FLOWING BACK INTO WATERBODY. BARRIERS MAY BE TEMPORARILY REMOVED TO ALLOW CONSTRUCTION ACTIVITIES BUT MUST BE REPLACED BY THE END OF EACH WORK DAY. ENVIRONMENTAL CONTROL DEVICES (SILT FENCE, STRAW BALES OR SANDBAGS) MAY BE USED INTERCHANGEABLY.
5. REMOVE FLOATING BRIDGES AS SOON AS POSSIBLE AFTER PERMANENT SEEDING UNLESS OTHERWISE DIRECTED BY REPRESENTATIVE. THE STRUCTURE IS TO BE REMOVED IF THERE IS MORE THAN ONE MONTH BETWEEN FINAL GRADING AND SEEDING, AND ALTERNATIVE ACCESS TO THE CONSTRUCTION R.O.W. IS AVAILABLE.
6. DISPOSE OF A ROCK AS DIRECTED BY COMPANY REPRESENTATIVE.
7. RESTORE AND STABILIZE BED AND BANKS TO APPROXIMATE PRE-CONSTRUCTION CONDITIONS.
8. ALL CONTROL DEVICES SIMILAR TO SILT FENCE OR FIBER ROLLS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/3 OF THE HEIGHT OF THE DEVICE. THESE REPAIRS MUST BE MADE WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

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PROJECT NO.



PROJECT NO: 10395700

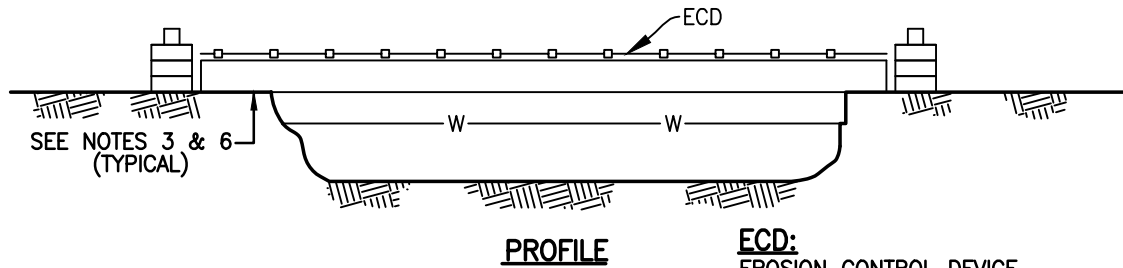
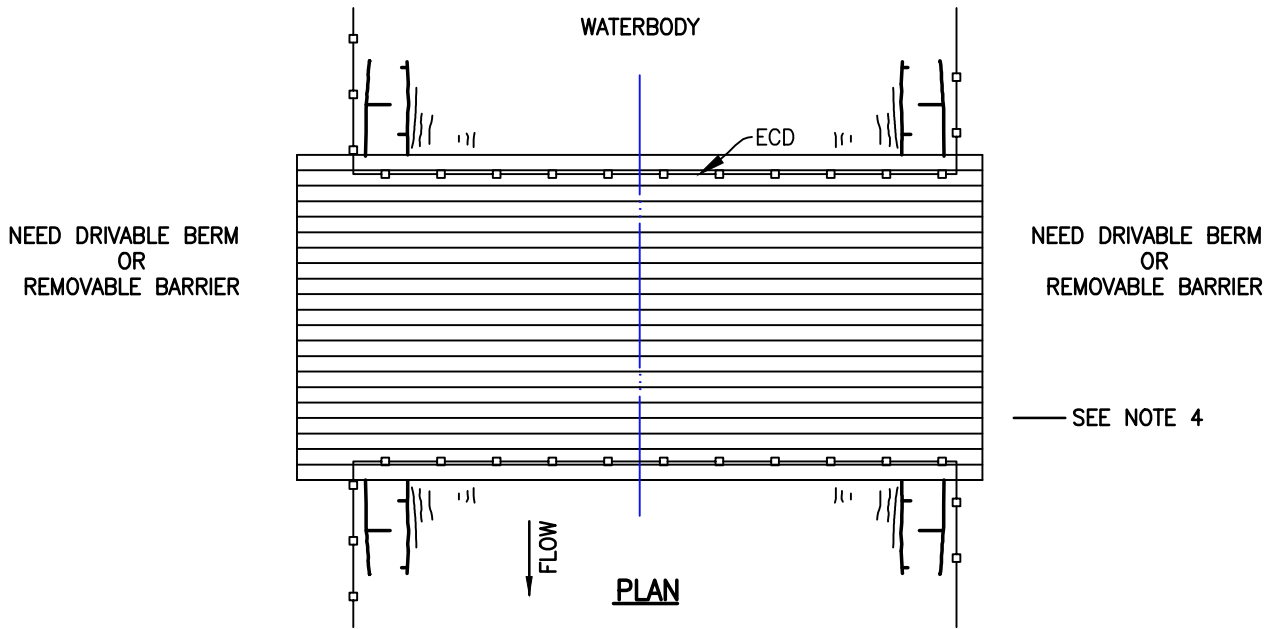


DAKOTA ACCESS, LLC
An ENERGY TRANSFER Company

TYPICAL
WATERBODY BRIDGE FLEXIFLOAT TYPE (FF)

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ECD:
EROSION CONTROL DEVICE
(SILT FENCE, STRAW BALES OR SANDBAGS).


NOTES:

1. THIS TYPE OF BRIDGE IS GENERALLY USED ON NARROW CROSSINGS, LESS THAN 20 FEET WIDE WITH APPROPRIATE BANK CONFIGURATION. MULTIPLE MATS MAY BE LAYERED FOR HEAVIER EQUIPMENT CROSSINGS.
2. BRIDGE SHALL BE TEMPORARILY REMOVED IF HIGH WATER RENDERS IT UNSAFE TO USE.
3. IF REQUIRED, UTILIZE APPROACH FILLS OF CLEAN ROCK MATERIAL, SWAMP MATS, SKIDS OR OTHER SUITABLE MATERIALS TO AVOID CUTTING THE BANKS WHEREVER FEASIBLE. ENSURE ADEQUATE FREEBOARD. ENSURE THAT FILL MATERIAL, IF USED, DOES NOT SPILL INTO WATERCOURSE INCLUDING REMOVAL OF DIRT FROM DECK DURING OPERATION.
4. CONSTRUCT SEDIMENT BARRIERS ACROSS THE ENTIRE CONSTRUCTION R.O.W. TO PREVENT SILT LADEN WATER AND SPOIL FORM FLOWING BACK INTO WATERBODY. BARRIERS MAY BE TEMPORARILY REMOVED TO ALLOW CONSTRUCTION ACTIVITIES BUT MUST BE REPLACED BY THE END OF EACH WORK DAY. SILT FENCE, STRAW BALES OR SANDBAGS MAY BE USED INTERCHANGEABLY.
5. REMOVE TIMBER MATS AS SOON AS POSSIBLE AFTER PERMANENT SEEDING UNLESS OTHERWISE DIRECTED BY REPRESENTATIVE. THE STRUCTURE IS TO BE REMOVED IF THERE IS MORE THAN ONE MONTH BETWEEN FINAL GRADING AND SEEDING, AND ALTERNATIVE ACCESS TO THE CONSTRUCTION R.O.W. IS AVAILABLE.
6. DISPOSE OF A ROCK AS DIRECTED BY COMPANY REPRESENTATIVE.
7. RESTORE AND STABILIZE BED AND BANKS TO APPROXIMATE PRE-CONSTRUCTION CONDITIONS.

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PROJECT NO.

 **WOOD GROUP MUSTANG, INC.**
PROJECT NO: 10395700

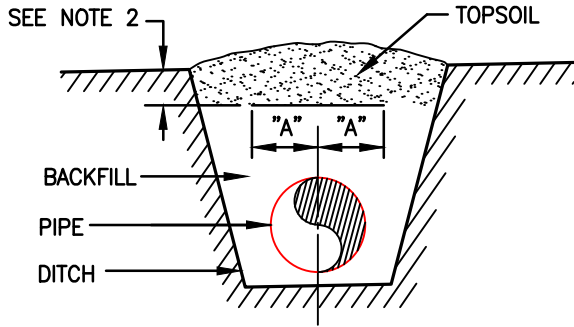
 **DAKOTA ACCESS, LLC**
An ENERGY TRANSFER Company

TYPICAL
WATERBODY BRIDGE TIMBER MAT (TM)

| | | | |
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| DRAWN BY: DAH | DATE: 08/07/14 | DWG. NO. | REV. |
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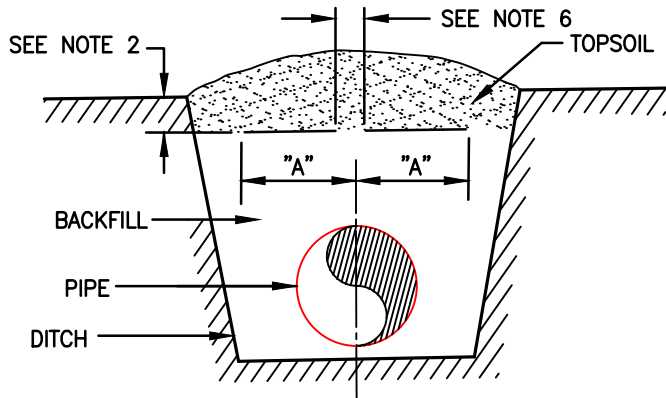
PIPELINE MARKING TAPE INSTALLATION

SINGLE R.O.W.



| PIPE DIA. | TAPE WIDTH | "A" |
|-----------|------------|-----|
| 6" | 24" | 12" |
| 8" | 24" | 12" |
| 10" | 24" | 12" |
| 12" | 24" | 12" |
| 14" | 24" | 12" |
| 16" | 24" | 12" |

DOUBLE R.O.W.



| PIPE DIA. | TAPE WIDTH | "A" |
|-----------|------------|-----|
| 20" | 24" | 25" |
| 24" | 24" | 25" |
| 30" | 24" | 25" |
| 34" | 24" | 25" |
| 36" | 24" | 25" |
| 42" | 24" | 26" |
| 48" | 24" | 36" |

NOTES:

1. PIPELINE MARKING TAPE SHALL BE INSTALLED AT OPEN CUT ROAD AND IN-GROUND UTILITY CROSSINGS AND AT ALL CLASS 2, 3 & 4 LOCATIONS, OR AS DIRECTED BY COMPANY.
2. TAPE IS TO BE INSTALLED 1 FOOT (1') BELOW GRADE EXCEPT IN AGRICULTURAL AREAS, WHERE IT SHALL BE LAID 1'-8" BELOW GRADE. FOR CONVENIENCE, TAPE CAN BE INSTALLED LEVEL AT ROAD CROSSINGS, 1 FOOT (1') BELOW ROAD DITCHES.
3. TAPE IS TO BE INSTALLED ACROSS AND 15 FEET (15') UPSTREAM AND DOWNSTREAM OR ROAD OR UTILITY RIGHT'S-OF-WAY, INCLUDING EXPOSED PORTION OF BORED CROSSINGS.
4. TAPE IS TO BE INSTALLED 15 FEET (15') UPSTREAM AND DOWNSTREAM OF UTILITY CROSSING IF NO RIGHT-OF-WAY EXISTS.
5. TOP OF BACKFILL SHALL BE AS LEVEL AS POSSIBLE PRIOR TO INSTALLATION OF TAPE.
6. GAP BETWEEN ADJACENT TAPES SHALL BE 2".

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WOOD GROUP MUSTANG, INC.

PROJECT NO: 10395700

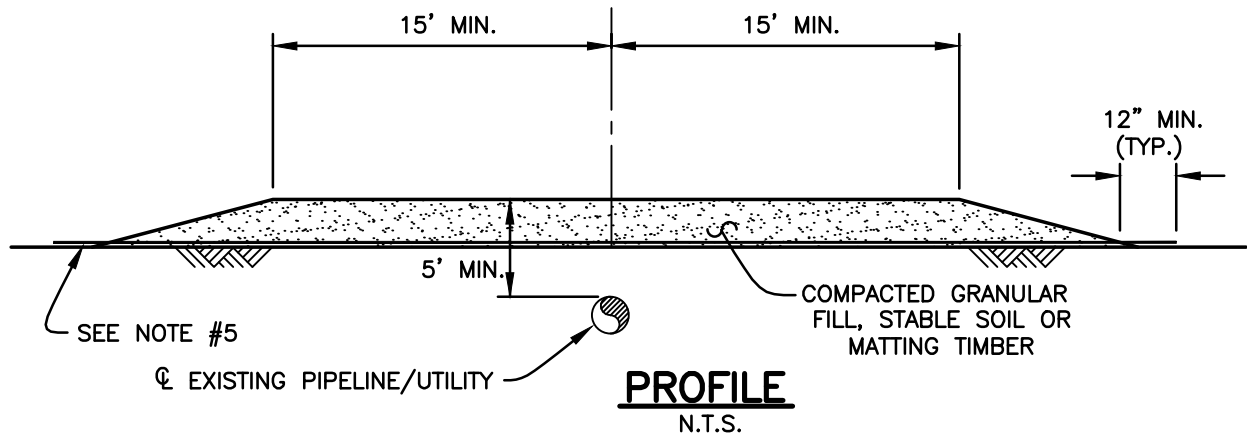
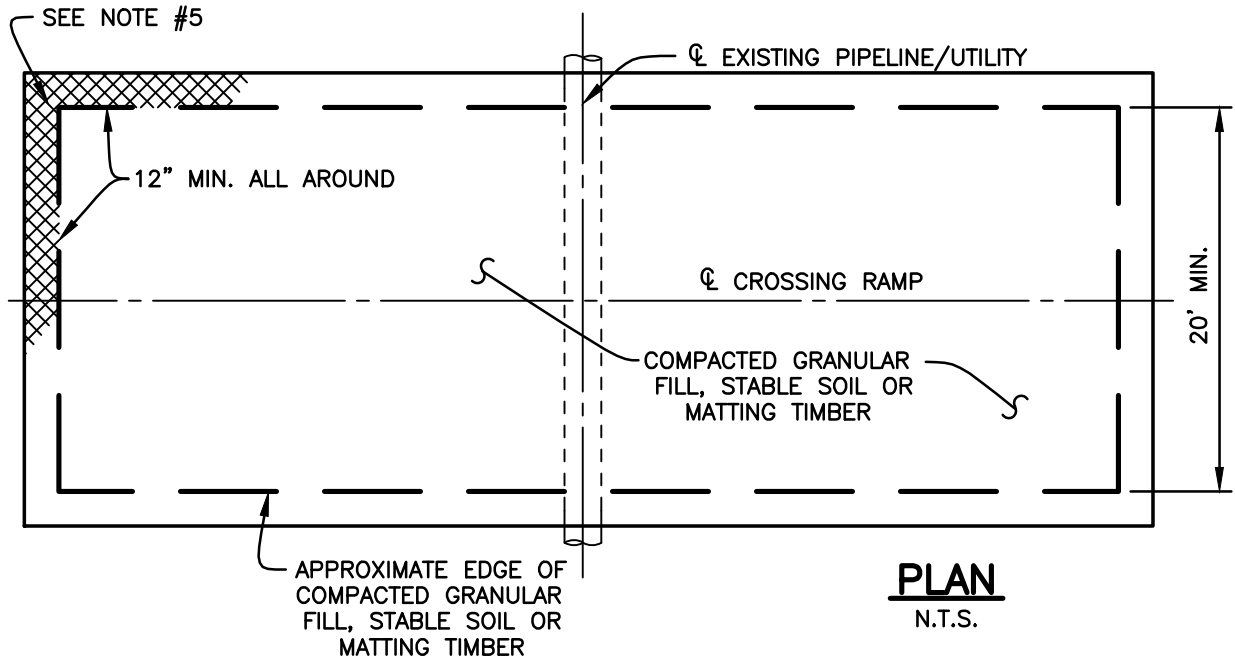


DAKOTA ACCESS, LLC
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TYPICAL PIPELINE MARKING INSTALLATION

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NOTES:

1. CONTRACTOR TO NOTIFY EXISTING PIPELINE/UTILITY COMPANY PRIOR TO INSTALLATION OF CROSSING RAMP.
2. LENGTH OF RAMP TO VARY IN ACCORDANCE WITH CROSSING ANGLE. MINIMUM CROSSING ANGLE TO BE 45 DEGREES.
3. VEHICLES OR EQUIPMENT USING CROSSINGS SHALL PROCEED SLOWLY & WITH CAUTION TO MINIMIZE IMPACT LOADING & REDUCTION ON DEPTH OF COVER OVER PIPELINE/UTILITY.
4. ON COMPLETION OF CONSTRUCTION, CONTRACTOR TO REMOVE COMPLETE RAMP & RESTORE AREA TO THE SATISFACTION OF THE EXISTING PIPELINE/UTILITY COMPANY & THE CLIENT INSPECTOR.
5. GEOTEXTILE FABRIC (& GEOTEXTILE GRID WHERE REQUIRED) SHALL BE INSTALLED TO PROTECT NATIVE TOP SOIL AS DIRECTED BY THE CLIENT INSPECTOR WHEN IMPORTED GRANULAR FILL, NATIVE SUBSOIL FILL OR MATTING TIMBER MATERIAL IS UTILIZED. IMPORTED GRANULAR FILL MATERIAL OR NATIVE SUBSOIL FILL MATERIAL TO BE REMOVED & DISPOSED OF AS DIRECTED BY THE CLIENT INSPECTOR.

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PROJECT NO: 10395700

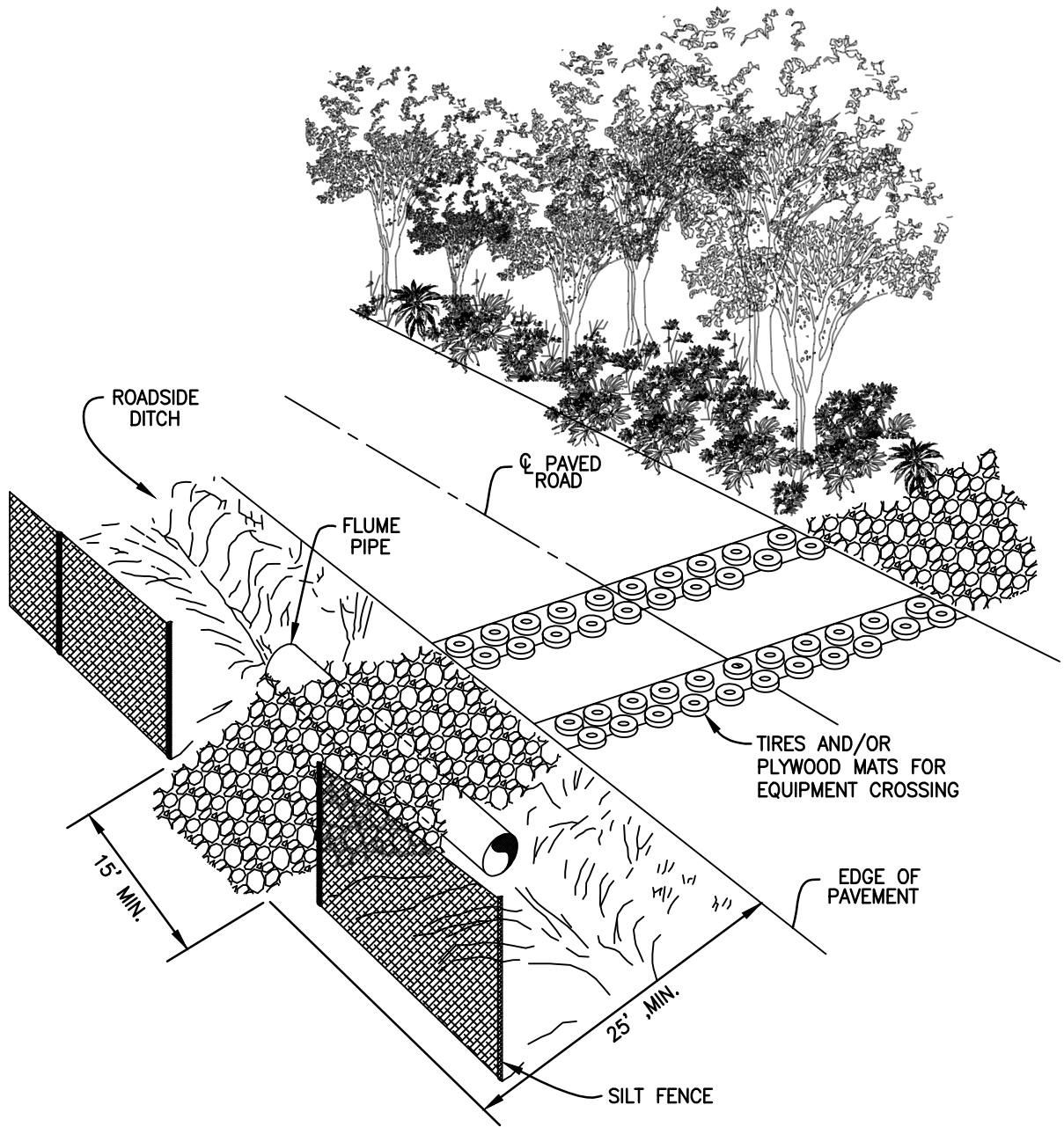


DAKOTA ACCESS, LLC
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TYPICAL
**TEMPORARY CROSSING RAMP
OVER EXISTING PIPELINE – UTILITY**

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TYPICAL PAVED ROAD CROSSING CONTROL DETAILS



NOTE:

1. CRUSHED STONE RAMP (WITH FABRIC MAT IN AGRICULTURAL AREAS) TO CONSTRUCTED FOR ENTRANCE AND EXIT OF VEHICLES AND EQUIPMENT.
2. ALL VEHICLES SHALL TRAVEL ON ACCESS RAMP WHEN ENTERING OR EXITING THE RIGHT-OF-WAY.
3. STREETS TO BE CLEANED AT THE END OF EACH DAY AS REQUIRED.
4. FLAGGER TO BE PRESENT WHILE TIRES IN ROAD.
5. TIRES ARE TO BE MOVED OUT-OF-WAY AFTER TRACK VEHICLES CROSS.

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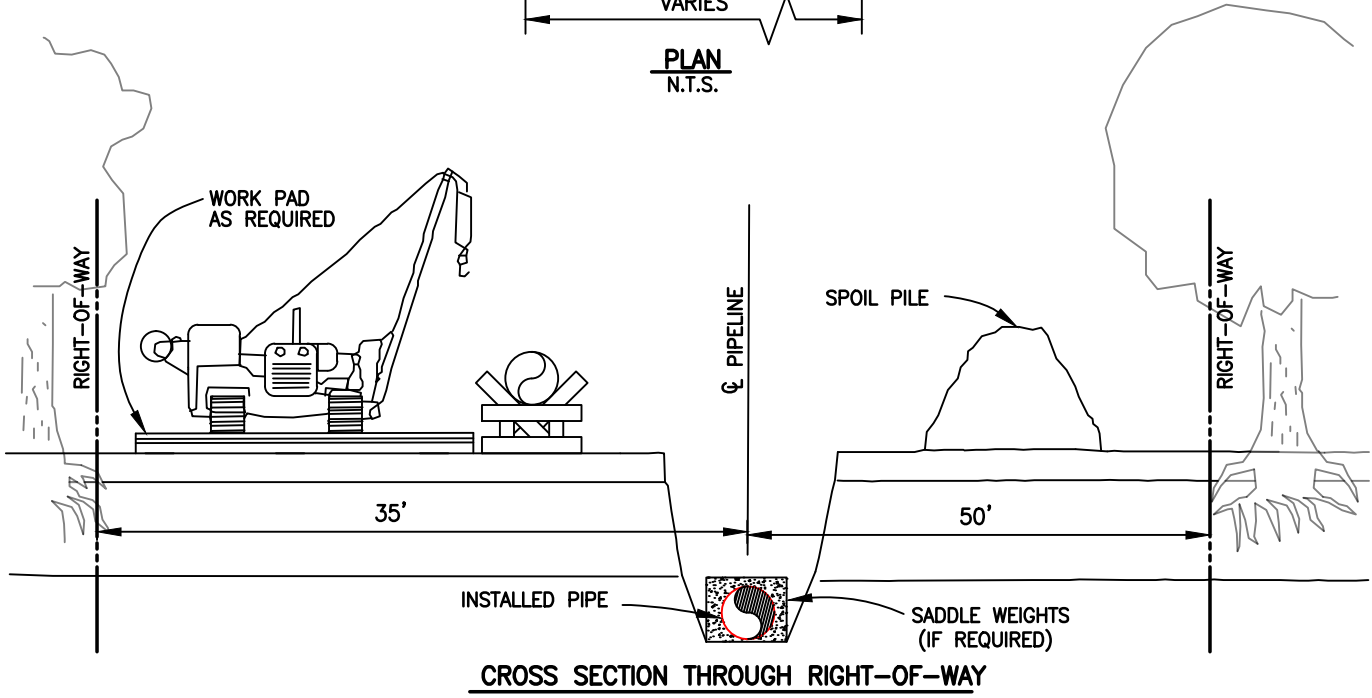
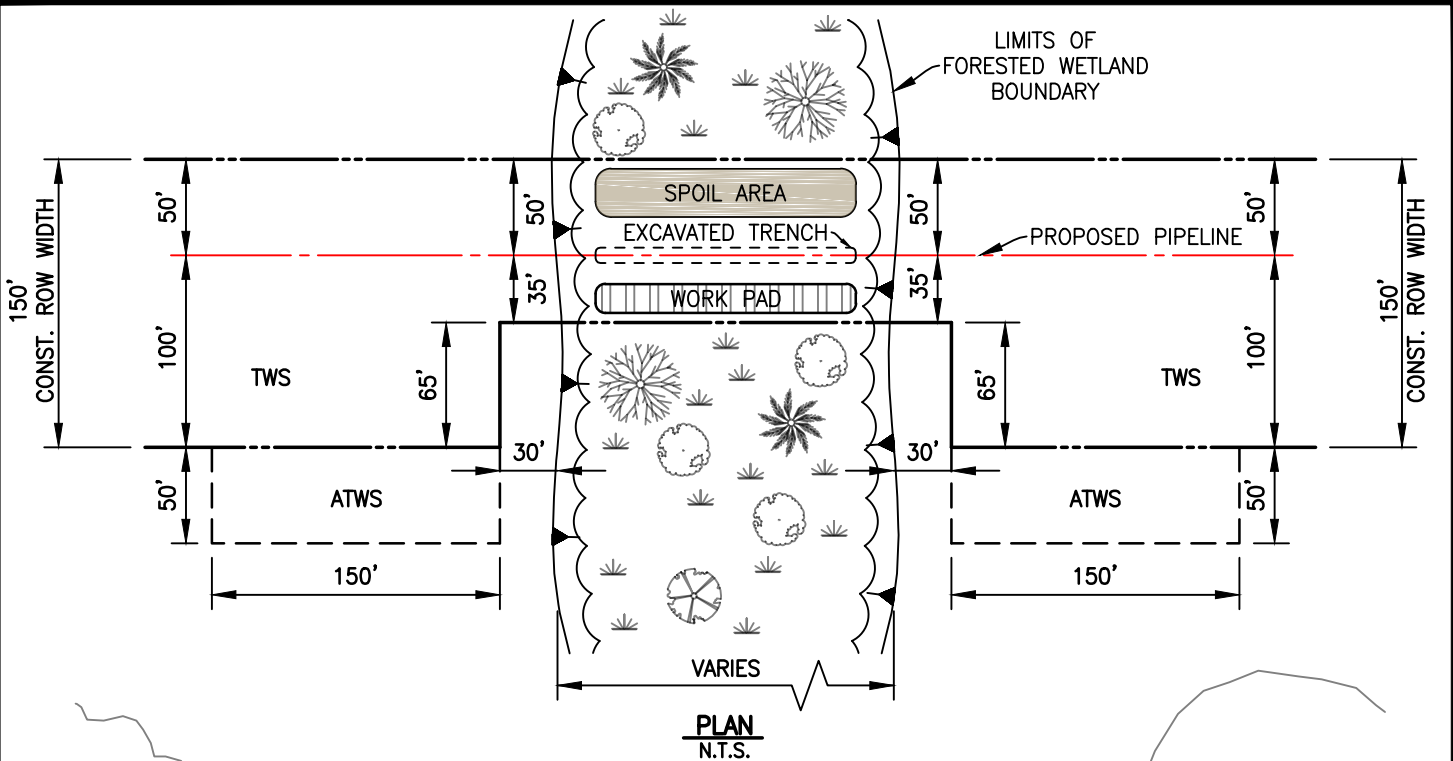


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TYPICAL
PAVED ROAD CROSSING CONTROL DETAILS

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NOTES

1. WORK PAD AND / OR EQUIPMENT MATS TO BE INSTALLED AS REQUIRED.
2. STUMPS TO BE REMOVED FROM WORKING RIGHT-OF-WAY.

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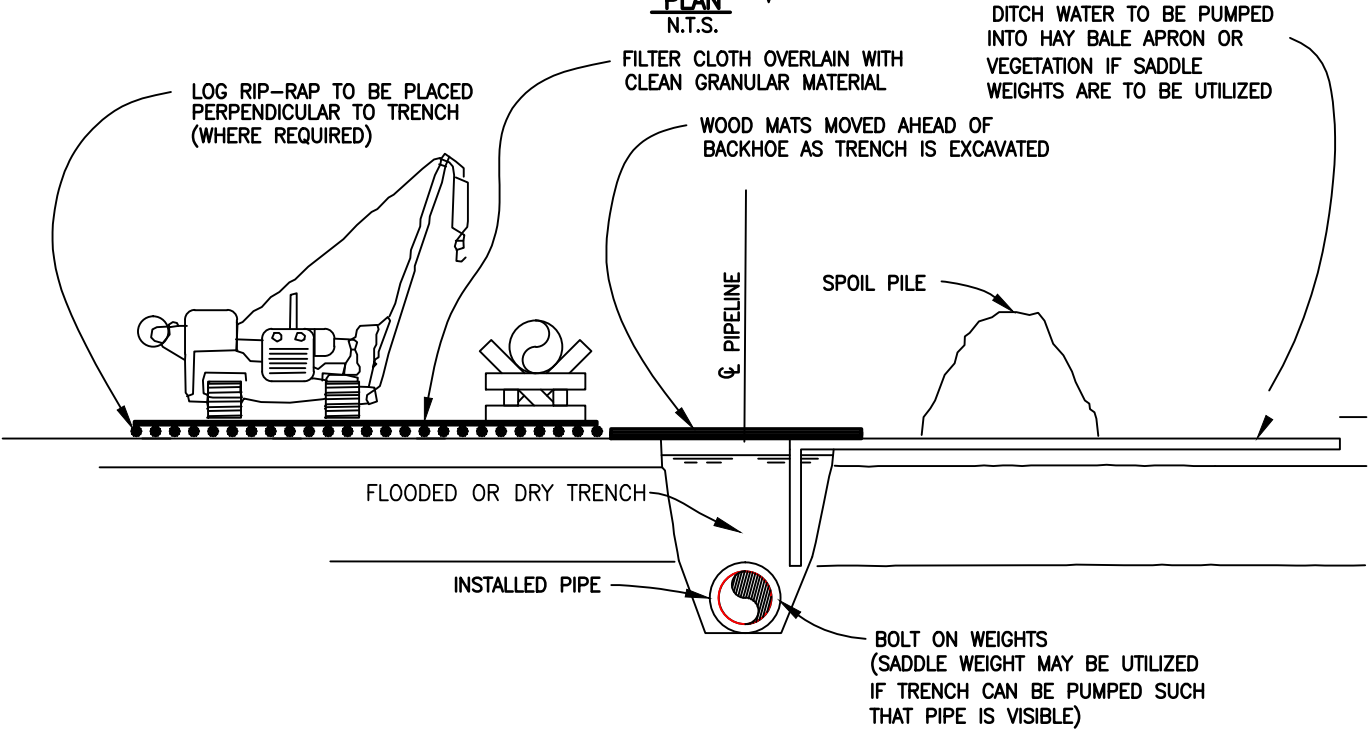
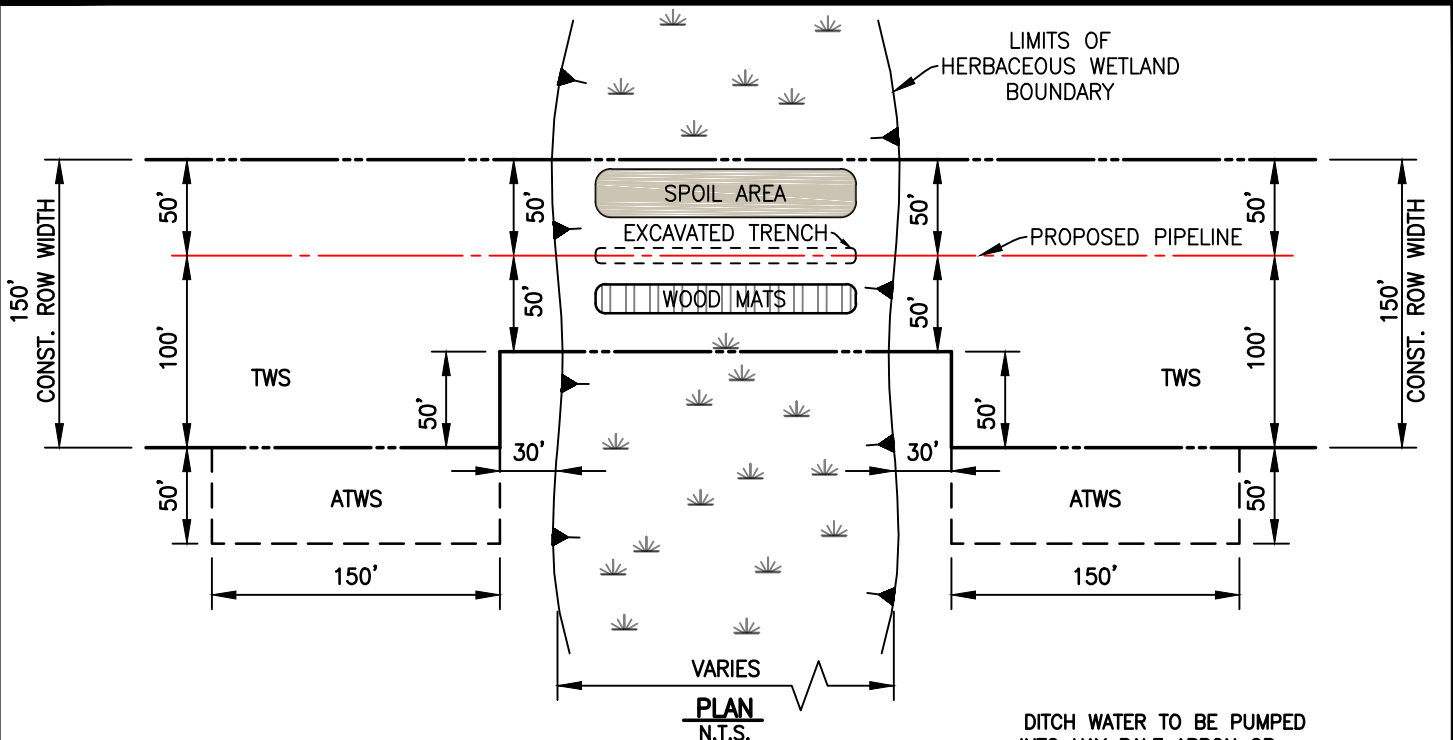
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TYPICAL WETLAND AND UPLAND FORESTED AREAS

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CROSS SECTION THROUGH RIGHT-OF-WAY

NOTES

1. WORK PAD OF LOG RIP-RAP AND / OR FILTER CLOTH WITH GRANULAR MATERIAL TO BE CONSTRUCTED FOR ACCESS FOR ALL EQUIPMENT.
2. TRENCH TO BE EXCAVATED BY BACKHOE POSITIONED ON WOOD MATS.
3. PIPE TO BE FABRICATED ON WORK PAD WITHIN WETLAND.

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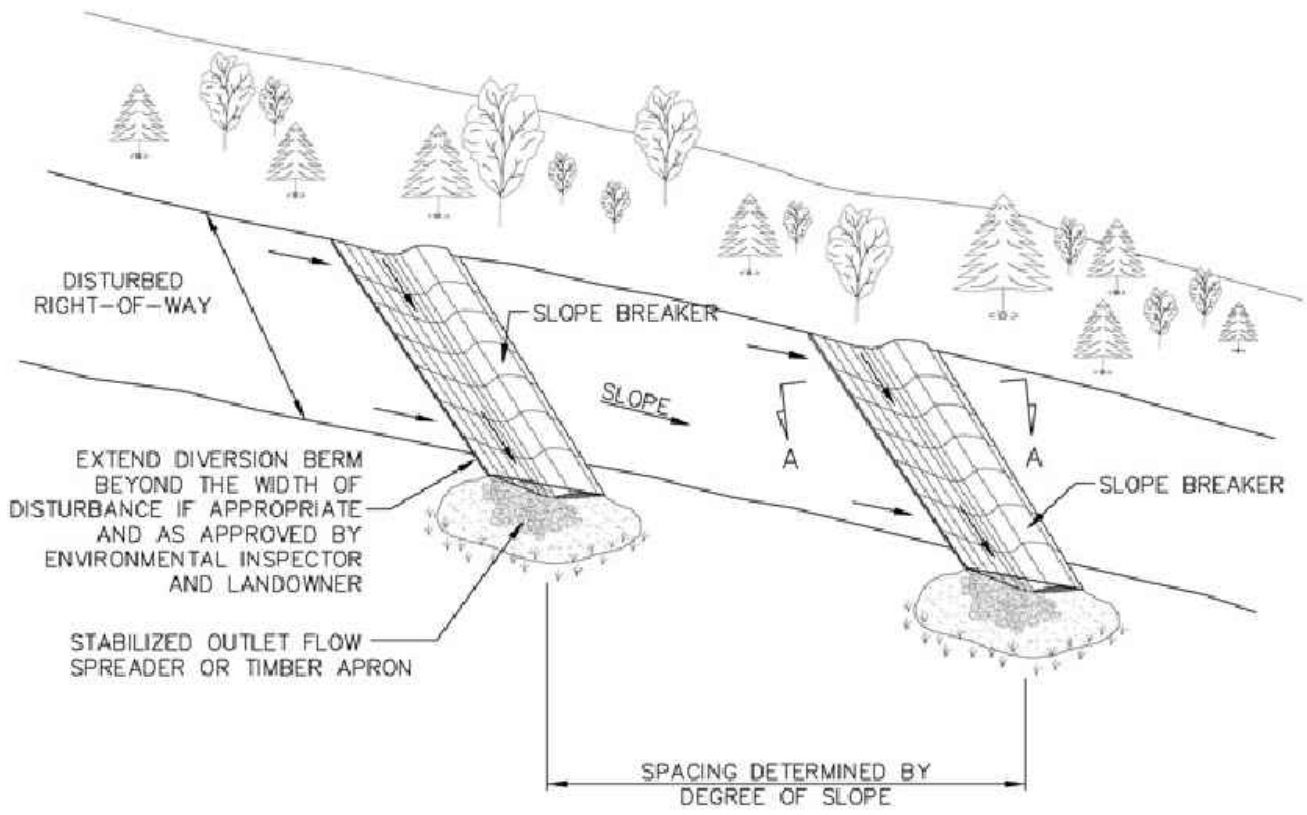
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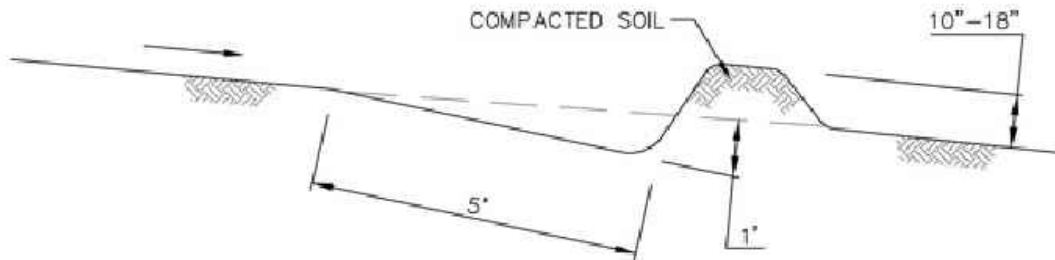
TYPICAL HERBACEOUS WETLAND

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PLAN



NOTES:

1. PERMANENT SLOPE BREAKERS TO PROVIDE POSITIVE DRAINAGE TO A STABILIZED OUTLET.
2. INSTALLATION SPECIFICATIONS TO BE MODIFIED BY THE PROJECT AS NECESSARY TO SUIT ACTUAL SITE CONDITIONS.
3. THE CONTRACTOR SHALL INSTALL TEMPORARY AND PERMANENT SLOPE BREAKERS ON SLOPES GREATER THAN APPROXIMATELY 5% ON ALL DISTURBED LANDS AT THE FOLLOWING RECOMMENDED SPACING:

| SLOPE (%) | SPACING (FEET) |
|-----------|----------------|
| 5-15 | 300 |
| >15-30 | 200 |
| >30 | 100 |

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PROJECT NO: 10395700

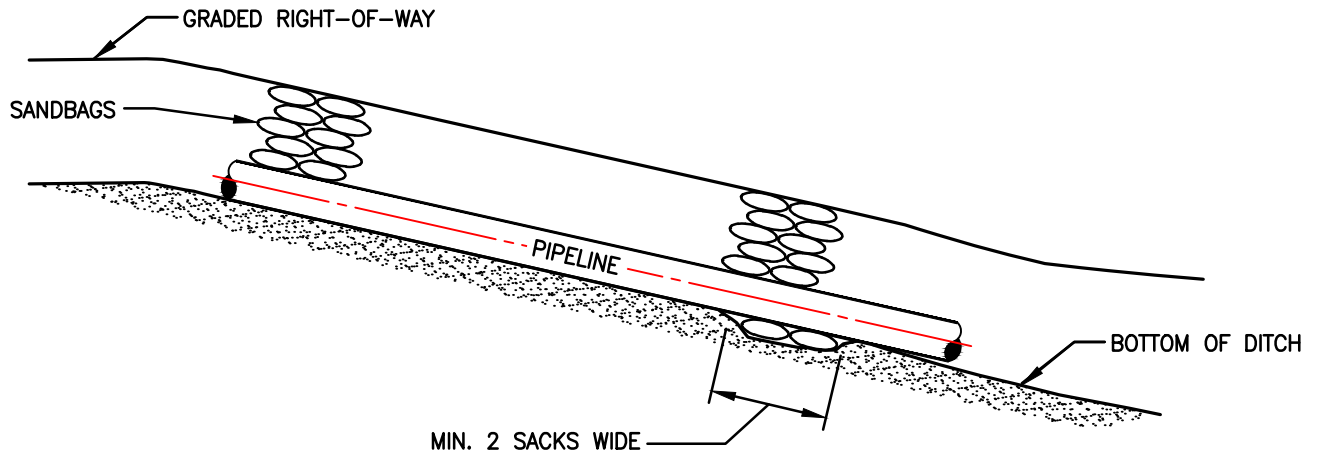


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TYPICAL
PERMANENT WATER BARS OR TERRACES

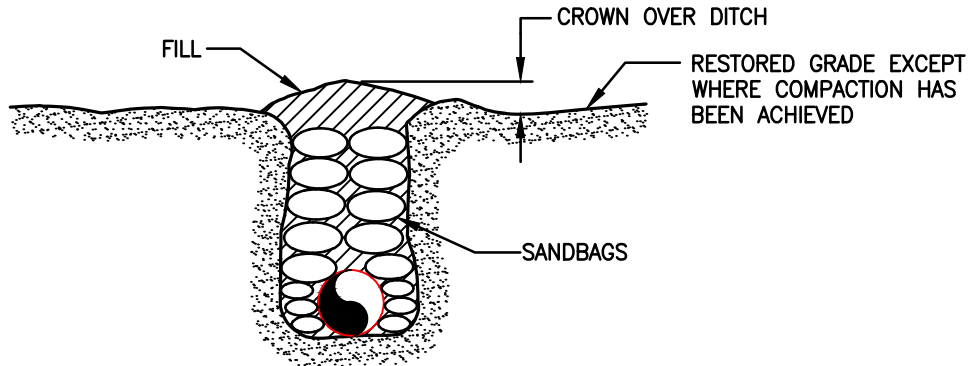
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SIDE VIEW CROSS SECTION



| DEGREES | SPACING |
|---------|--------------|
| 5-15 | 300 ft. MAX. |
| 15-30 | 200 ft. MAX. |
| > 30 | 100 ft. MAX. |

END VIEW CROSS SECTION



NOTES:

1. CONSTRUCT ON SLOPING TERRAIN, AT BASE OF SLOPES ADJACENT TO WATERBODIES, AND AT BOTH SIDES OF WETLAND AND WATERBODY CROSSINGS.
2. PRIOR TO LOWERING IN PIPE REMOVE ALL DECOMPOSABLE MATERIAL AND LARGE ROCKS.
3. BREAKERS MAY BE COMPOSED OF SANDBAG OR OTHER APPROVED MATERIALS.
4. MINIMUM 12 INCHES COVER OVER SANDBAGS IN ALL CASES.

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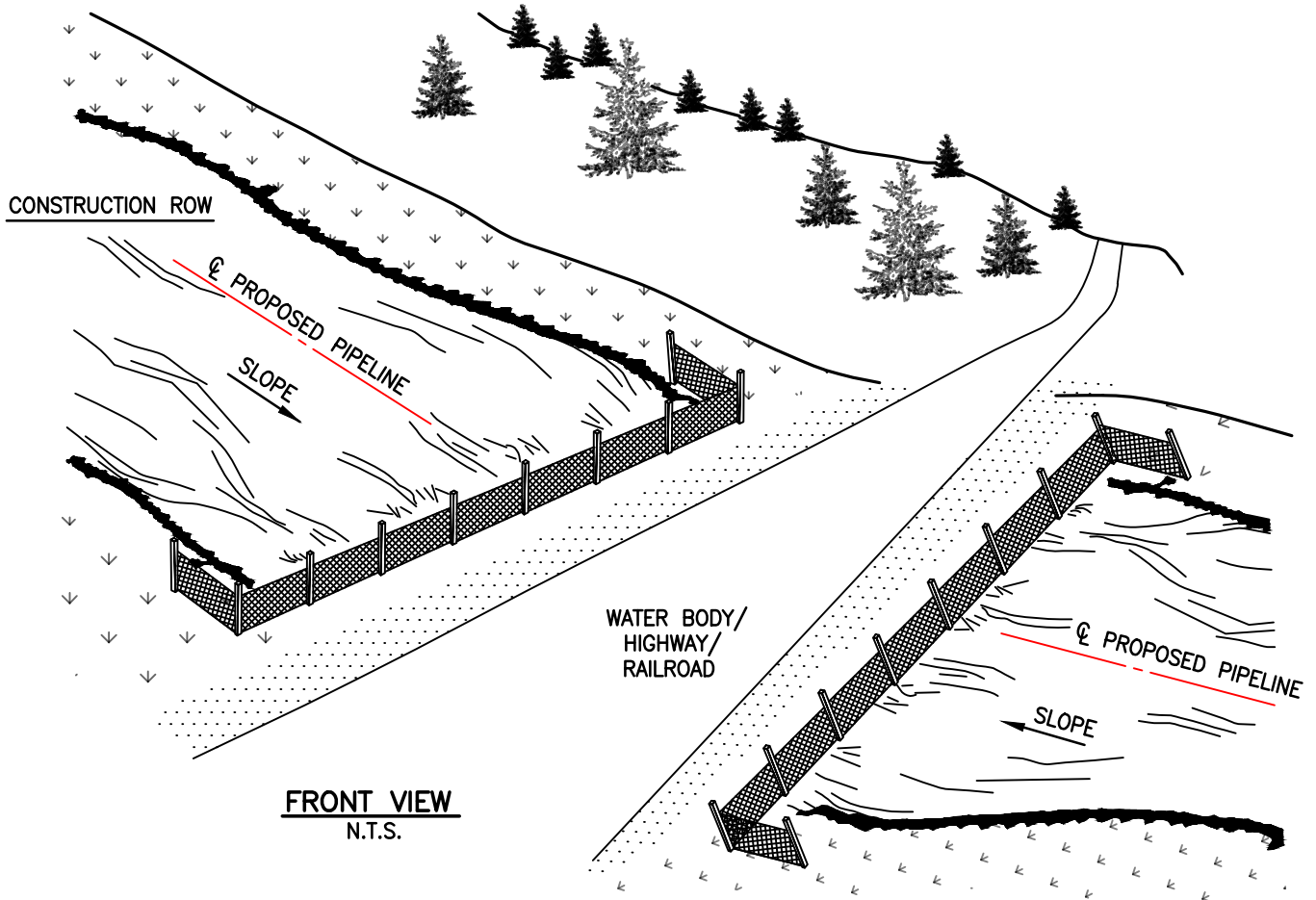

WOOD GROUP MUSTANG, INC.
 PROJECT NO: 10395700


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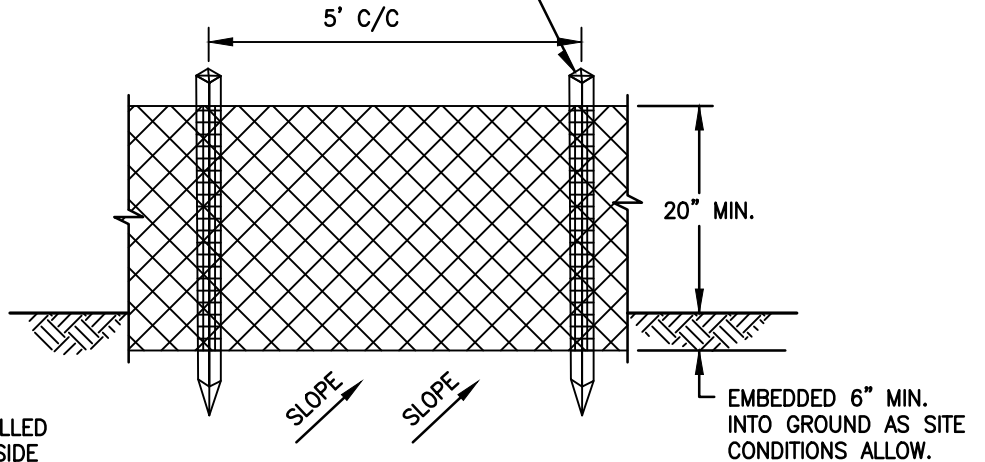
**TYPICAL
TEMPORARY TRENCH PLUG INSTALLATION**

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34" x 2" x 2" MIN. REINFORCED FENCE
POSTS DRIVEN MIN. 16" INTO GROUND
AS SITE CONDITIONS ALLOW.



NOTE:

1. REINFORCED FENCE SHOULD BE INSTALLED SO POSTS ARE ON THE DOWNSLOPE SIDE OF THE FABRIC.



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TYPICAL
SILT REINFORCED FENCE INSTALLATION

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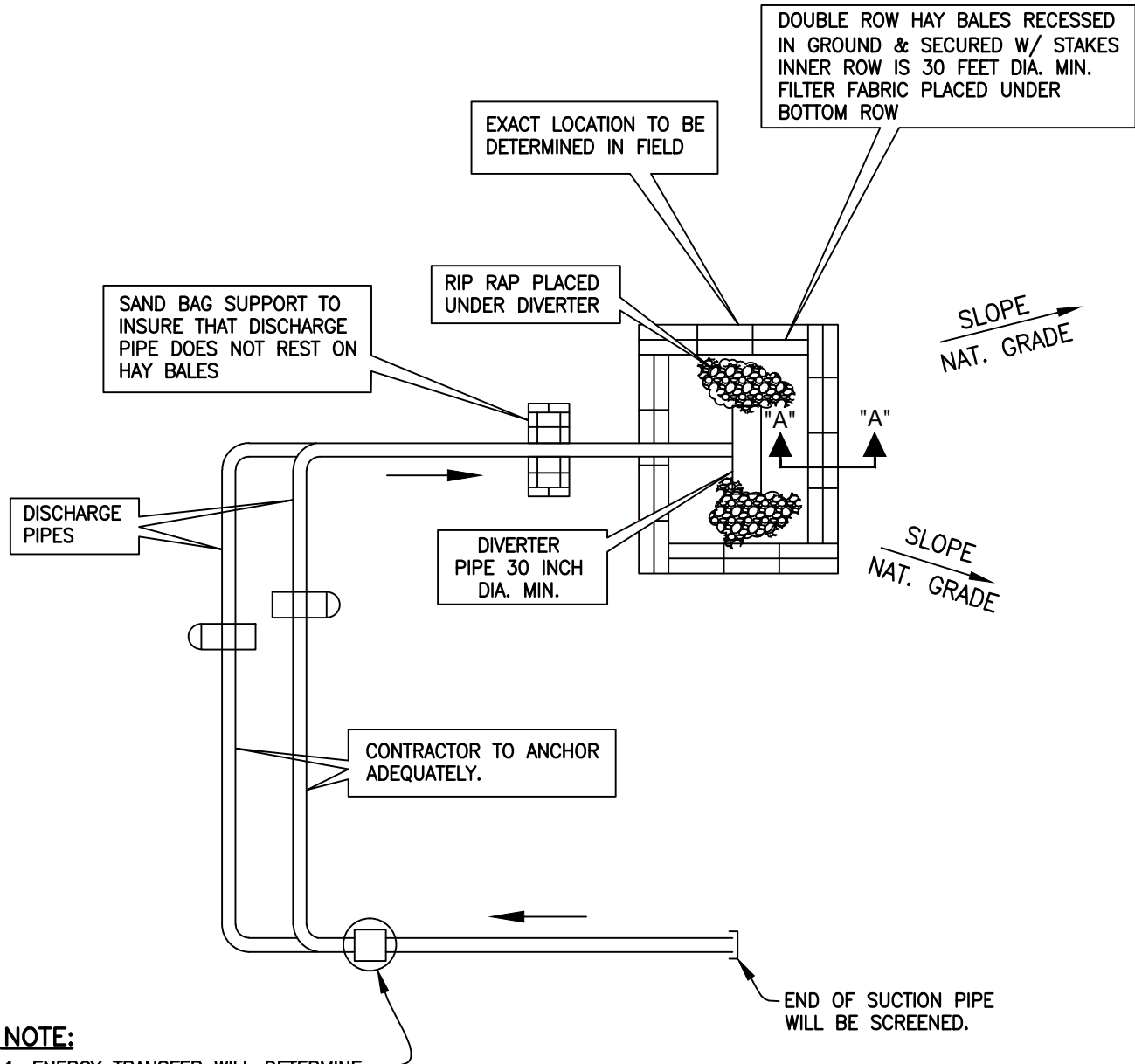


WOOD GROUP MUSTANG, INC.

PROJECT NO: 10395700

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NOTE:

1. ENERGY TRANSFER WILL DETERMINE FLUME(S) SIZE TO BE UTILIZED BASED UPON WATER FLOW RATES AT TIME OF INSTALLATION

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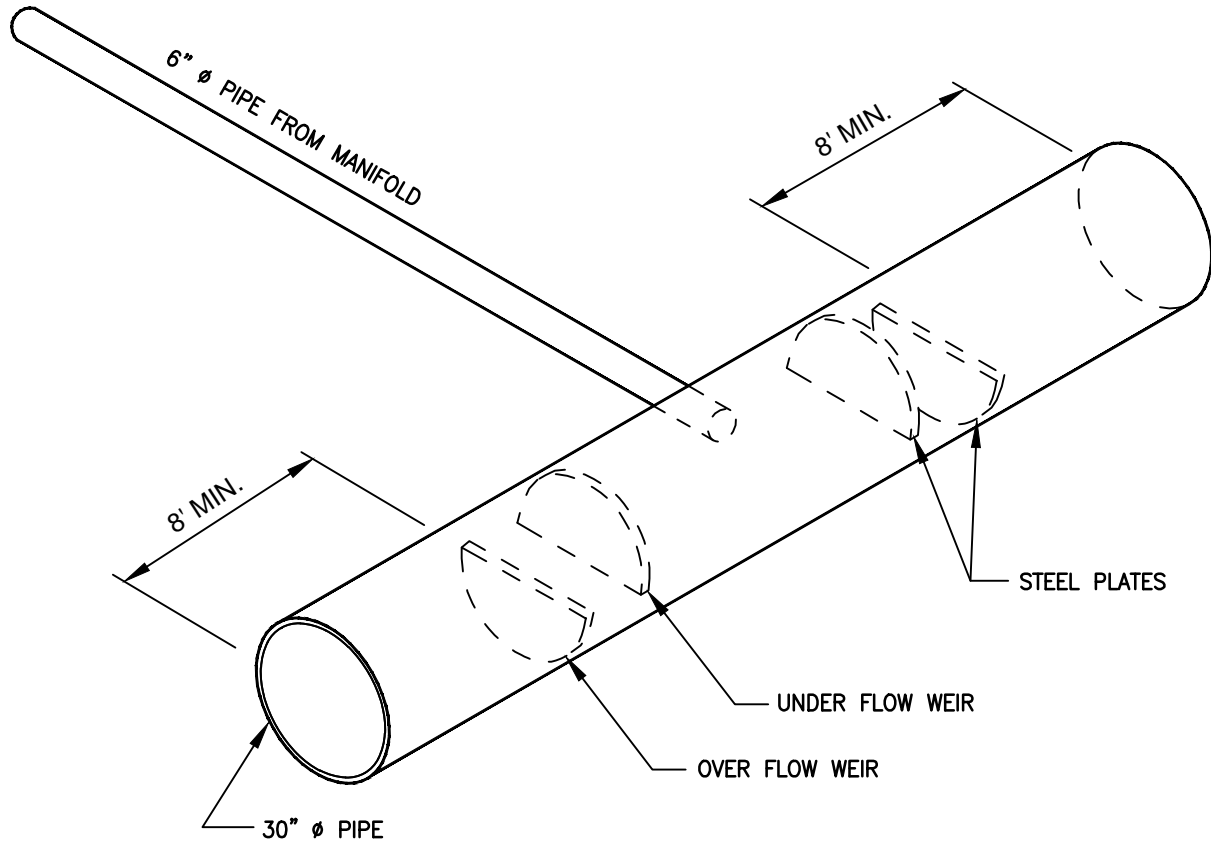


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An ENERGY TRANSFER Company

TYPICAL
HAY BALE STRUCTURE

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NOTE:

- ENERGY DISSIPATOR TO BE ANCHORED BY CONTRACTOR

TYPICAL ENERGY DISSIPATOR MUST BE USED IN CONJUNCTION W/FILTER (AS APPROPRIATE)

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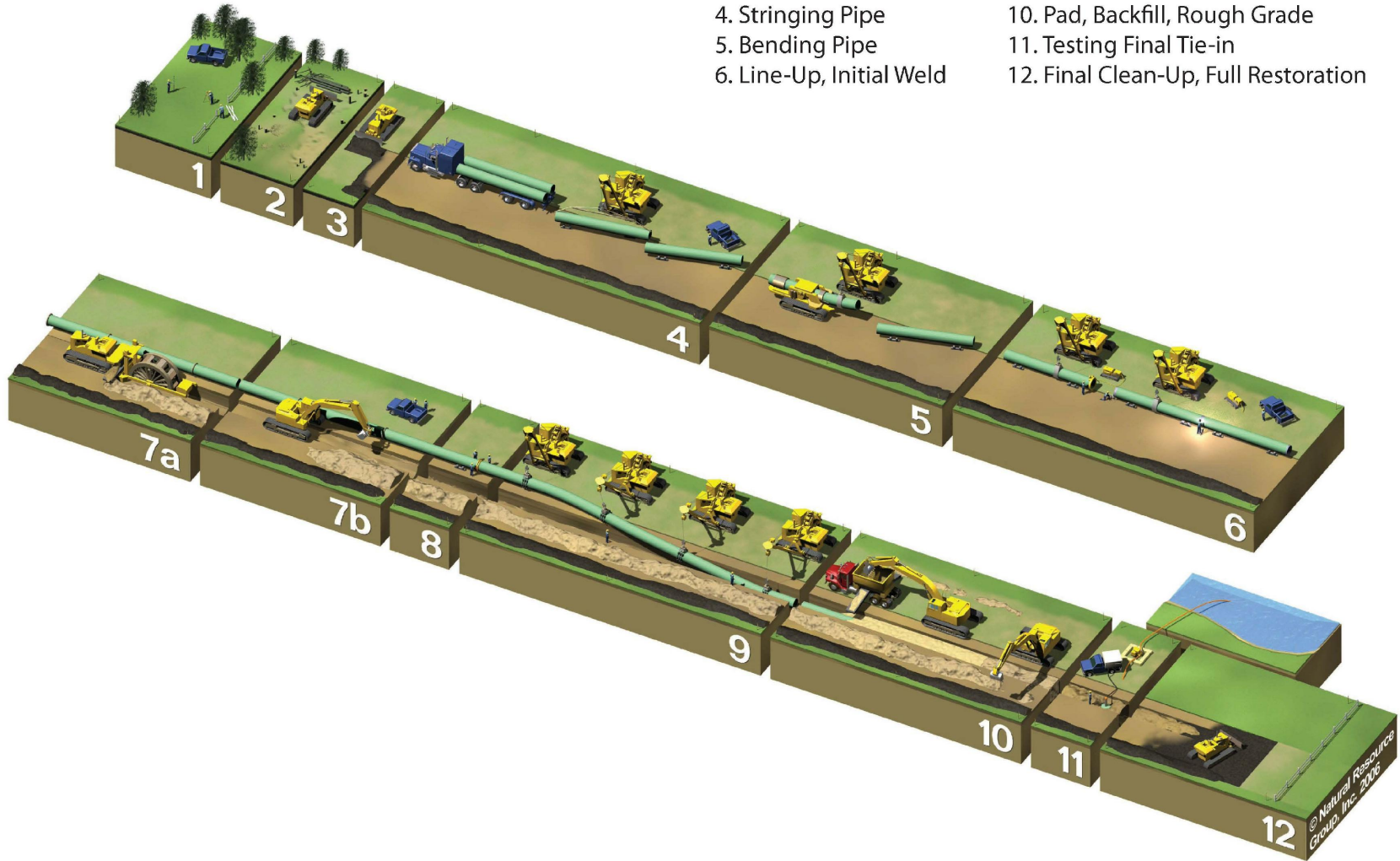


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TYPICAL
ENERGY DISSIPATOR

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1. Survey and Staking
2. Front-End Clearing
3. Right-of-Way Grading
4. Stringing Pipe
5. Bending Pipe
6. Line-Up, Initial Weld
7. Trenching
8. Final Coating and Inspection
9. Lowering Pipe into Trench
10. Pad, Backfill, Rough Grade
11. Testing Final Tie-in
12. Final Clean-Up, Full Restoration



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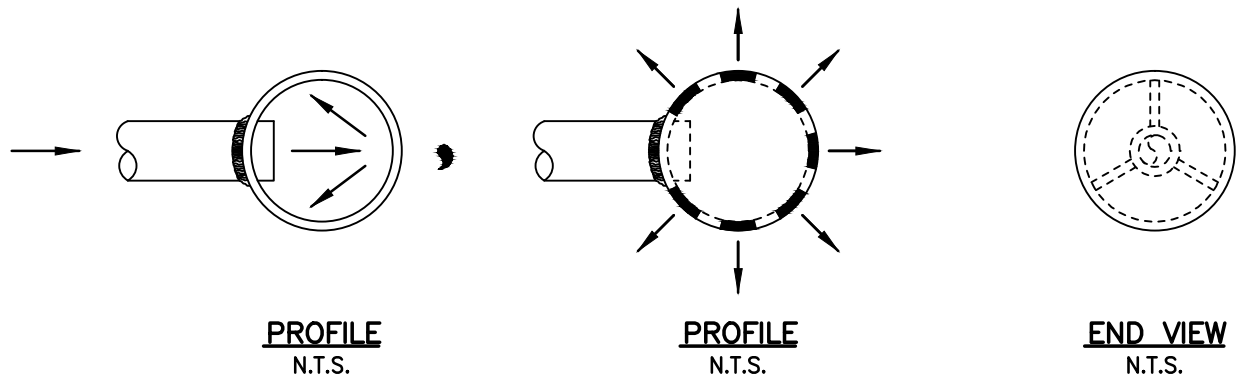
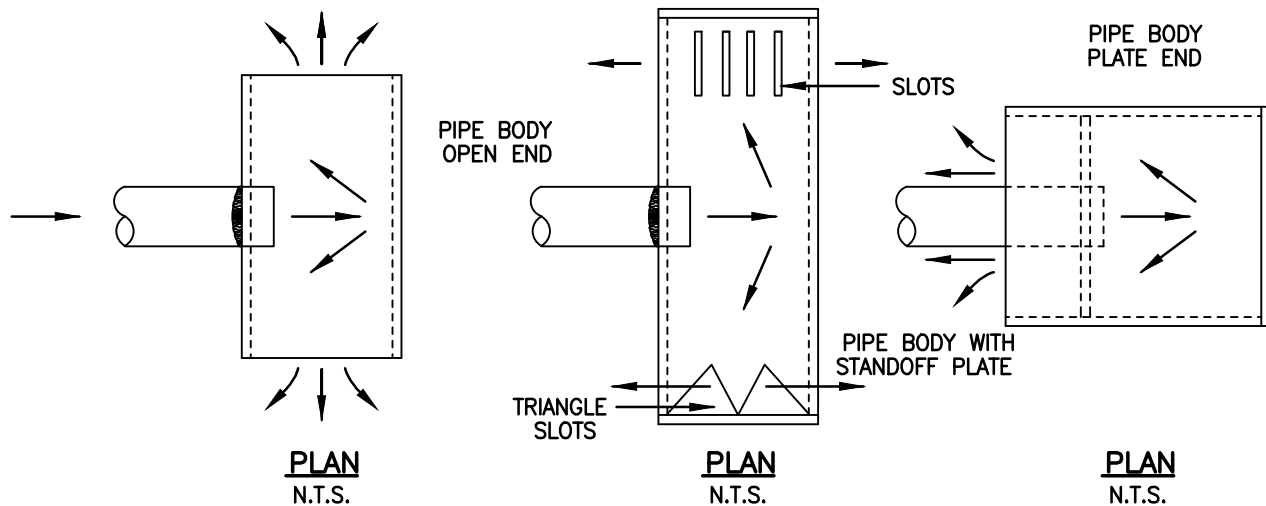


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TYPICAL
PIPELINE CONSTRUCTION SEQUENCE

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BASIC SPLASH PUP

BASIC SPLASH PLATE

PUP-PLATE COMBINATION

NOTES:

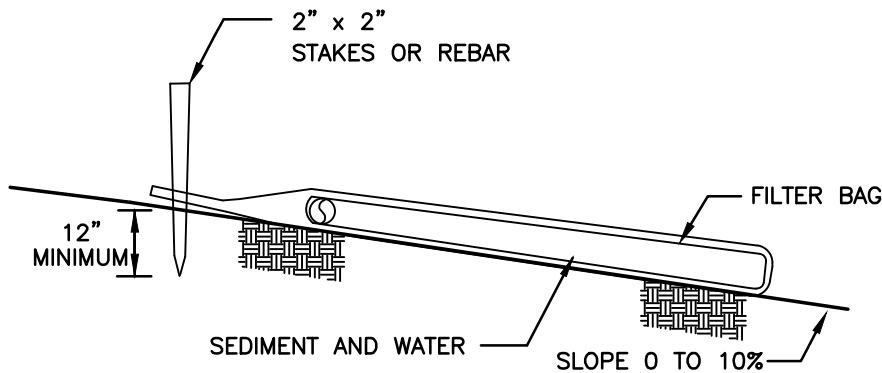
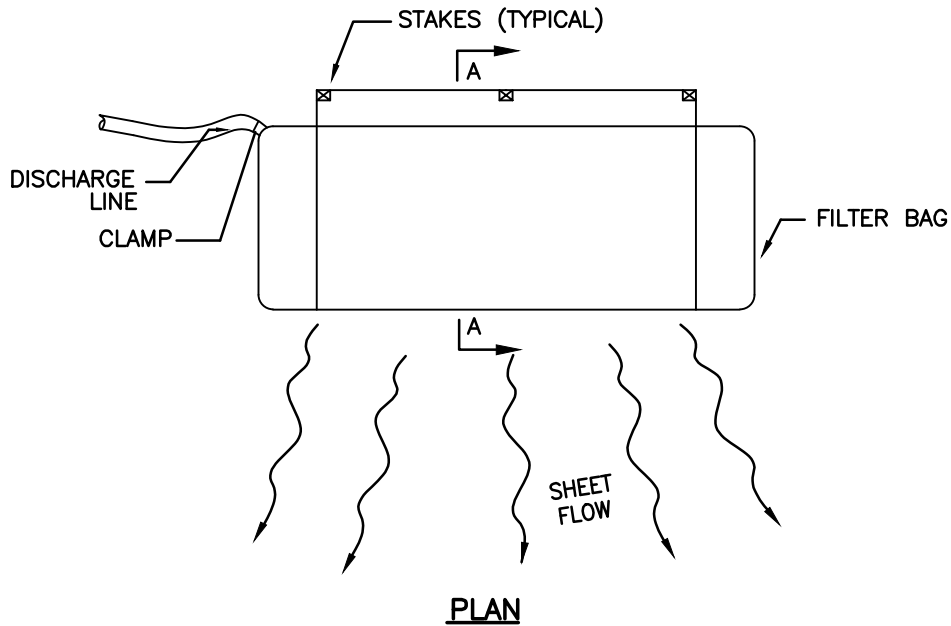
1. AN ENERGY DISSIPATER SHALL BE UTILIZED WHENEVER WATER DISCHARGE VELOCITIES MAY CAUSE EROSION.
2. THE DESIGN AND EFFECTIVENESS OF THE ENERGY DISSIPATER IS THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR.
3. ENERGY DISSIPATERS ARE UTILIZED IN CONJUNCTION WITH A DEWATERING STRUCTURE SUCH AS A SETTLING BASIN OR HAY BALES WITH A SILT FENCE.

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| TYPICAL | | | |
| SPLASH PUP FOR TEST WATER DISCHARGE | | | |
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NOTES:

1. INSTALL A DEWATERING GEOTEXTILE FILTER BAG AS DIRECTED BY THE INSPECTOR TO PREVENT THE FLOW OF HEAVILY SILT LADEN WATER INTO WATERBODIES OR WETLANDS.
2. DISCHARGE SITE SHALL BE WELL VEGETATED AND THE TOPOGRAPHY OF THE SITE SUCH THAT WATER WILL FLOW AWAY FROM ANY WORK AREAS. THE AREA DOWN SLOPE FROM THE DEWATERING SITE MUST BE REASONABLY PLANE OR STABILIZED BY VEGETATION OR OTHER MEANS TO ALLOW THE FILTERED WATER TO CONTINUE AS SHEET FLOW.
3. TO ATTACH THE DISCHARGE HOSE, CUT A CORNER OF THE BAG, INSERT DISCHARGE HOSE, AND SECURE THE HOSE TO THE BAG WITH BAND CLAMPS.
4. A SINGLE FILTER BAG SHOULD NOT BE USED FOR FLOWS GREATER THAN 600 GALLONS PER MINUTE.
5. REPLACE FILTER BAG BEFORE IT IS COMPLETELY FILLED WITH SEDIMENT. MONITOR DISCHARGE TO AVOID OVER PRESSURING DUE TO PLUGGING, WHICH MAY RESULT IN RUPTURE.
6. DISPOSE OF USED EMPTIED FILTER BAG AT A PIPELINE DESIGNATED FACILITY.

SECTION "A-A"

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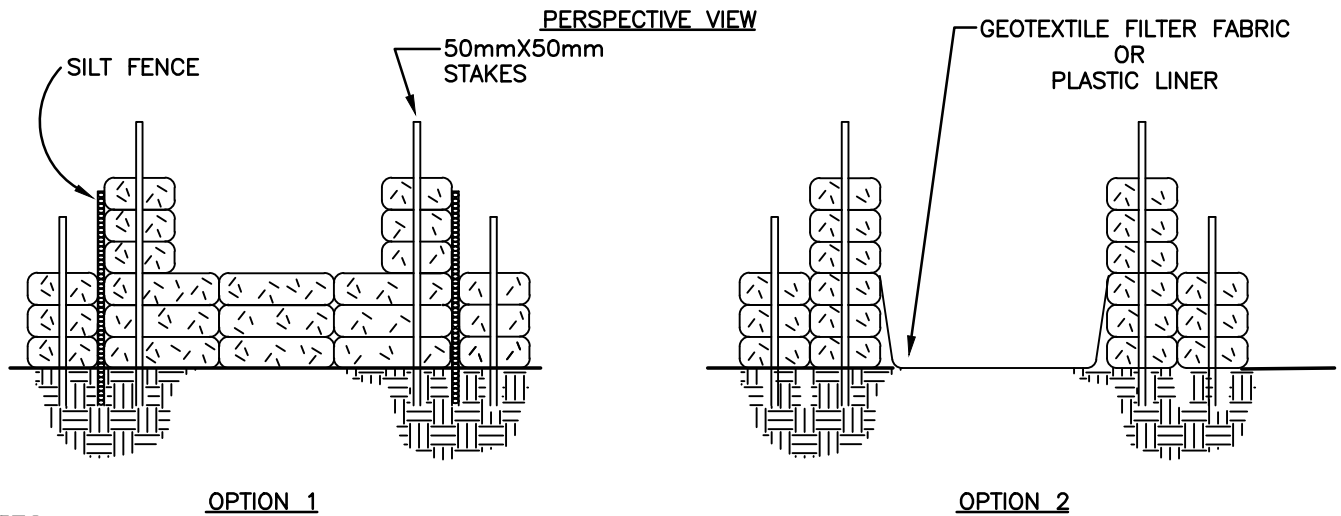
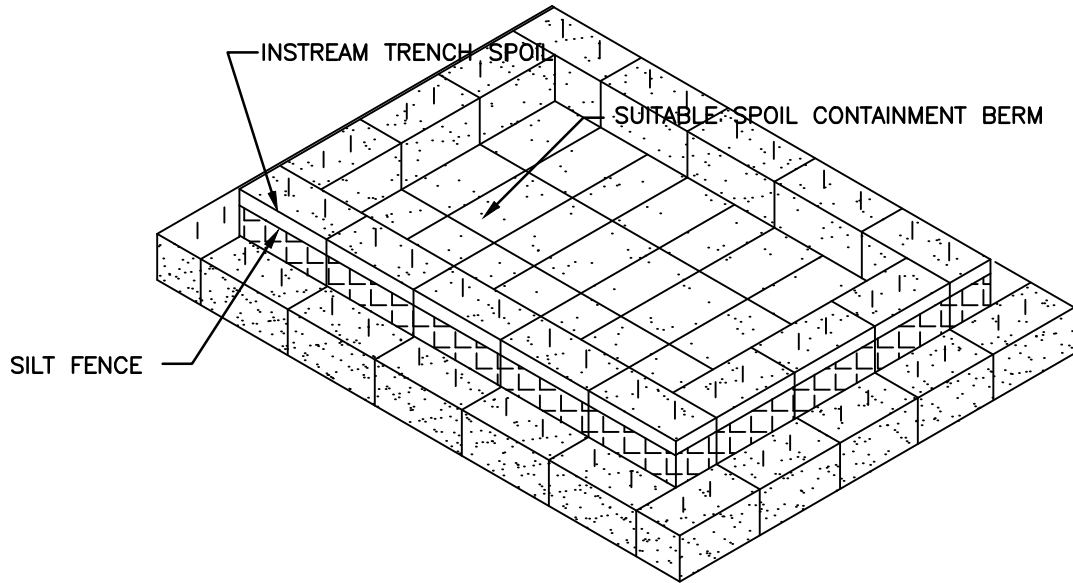
TYPICAL

GEOTEXTILE FILTER BAG FOR DEWATERING

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NOTES:


1. INSTALL A STRAW BALE DEWATERING STRUCTURE WHEREVER IT IS NECESSARY AND AS DIRECTED BY THE INSPECTOR TO PREVENT THE FLOW OF SILT LADEN WATER INTO WATERBODIES OR WETLANDS.
2. DISCHARGE SITE SHALL BE WELL VEGETATED AND THE TOPOGRAPHY OF THE SITE SUCH THAT WATER WILL FLOW AWAY FROM ANY WORK AREAS. THE AREA DOWN SLOPE FROM THE DEWATERING SITE MUST BE REASONABLY PLANE OR STABILIZED BY VEGETATION OR OTHER MEANS TO ALLOW THE FILTERED WATER TO CONTINUE AS SHEET FLOW.
3. IF BOTTOM OF STRUCTURE IS NOT LINED WITH STRAW BALES, IN AREAS OF HIGHLY ERODIBLE SOILS, LINE ENTIRE STRUCTURE WITH GEOTEXTILE FILTER FABRIC OR PLASTIC SHEETING.
4. THE DIMENSIONS OF THE STRUCTURE SHALL BE DETERMINED IN THE FIELD BASED UPON SITE CONDITIONS.
5. DISCHARGE RATES SHALL BE SUCH THAT WATER WILL NOT OVERFLOW THE TOP OF THE STRUCTURE.
6. INSTALL AN ENERGY DISSIPATOR IF THE DISCHARGE VELOCITY IS ERODING THE SOIL.

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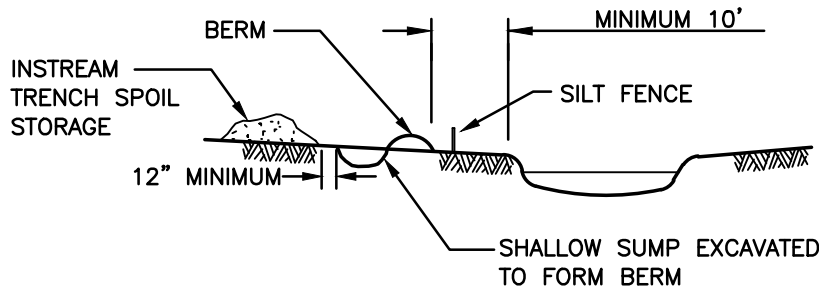
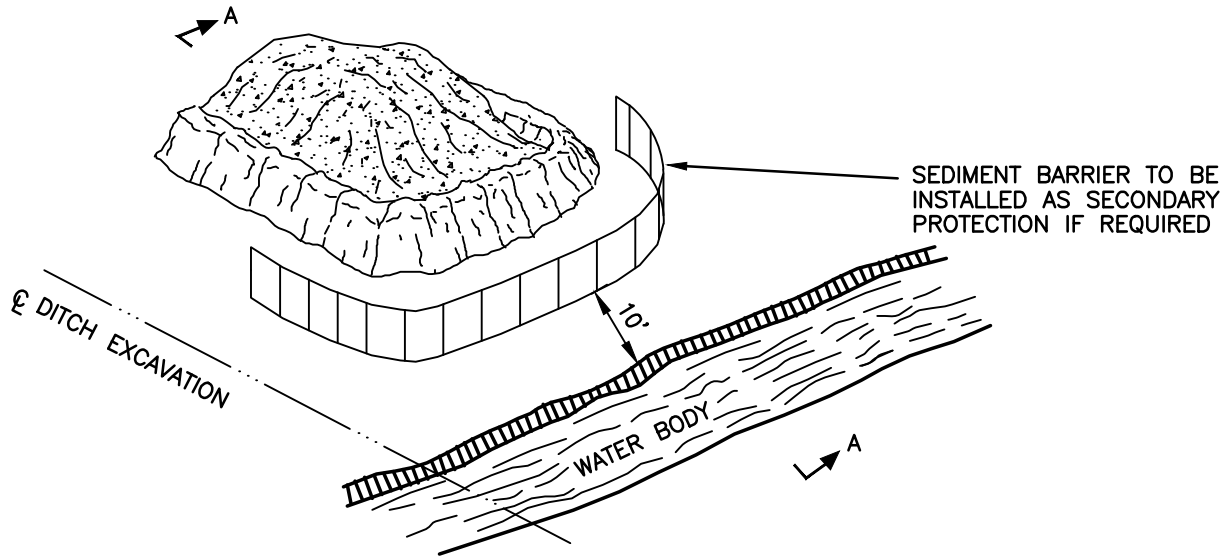


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**TYPICAL
STRAW BALE DEWATERING STRUCTURE
(LARGE VOLUME)**

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SECTION A-A

NOTES:

1. SOIL CONTAINMENT BERMS ARE TO BE USED WHERE INSTREAM TRENCH SPOIL COULD REENTER THE WATERCOURSE DIRECTLY OR INDIRECTLY AND WITH SIMULTANEOUS UTILIZATION OF SEDIMENT BARRIERS, IF REQUIRED.
2. IF SOIL CONTAINMENT BERMS ARE USED IN AGRICULTURAL AREAS, TOPSOIL MUST BE STRIPPED PRIOR TO CONSTRUCTION OF BERM AND PLACEMENT OF SPOIL.
3. MATERIAL USED FOR THE CONTAINMENT BERM SHOULD BE A MINIMUM OF 10 FEET FROM THE WATERS EDGE. IT SHOULD BE KEPT TO A HEIGHT WHICH REMAINS STABLE DURING THE CONSTRUCTION PERIOD.
4. CARE SHOULD BE TAKEN THAT THE SPOIL PILE DOES NOT OVERTOP THE CONTAINMENT BERM.
5. THE CONTAINMENT BERM SHOULD BE DISMANTLED AND THE SITE RESTORED TO THE ORIGINAL CONDITION UPON COMPLETION OF THE WATER CROSSING.
6. WHERE POSSIBLE, RIPARIAN VEGETATION SHALL BE LEFT IN PLACE.
7. STAGED MOVEMENT OF INSTREAM SPOIL MAY BE REQUIRED IF QUANTITIES ARE EXCESSIVE.
8. CARE AND ATTENTION MUST BE TAKEN TO ENSURE SPOIL CONTAINMENT BERMS ARE MAINTAINED.
9. FULL CONSIDERATION FOR OVERALL SLOPE STABILITY IS REQUIRED WHEN SELECTING A SPOIL CONTAINMENT LOCATION.



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**TYPICAL
SOIL CONTAINMENT BERM
FOR WATERBODY TRENCH SPOIL**

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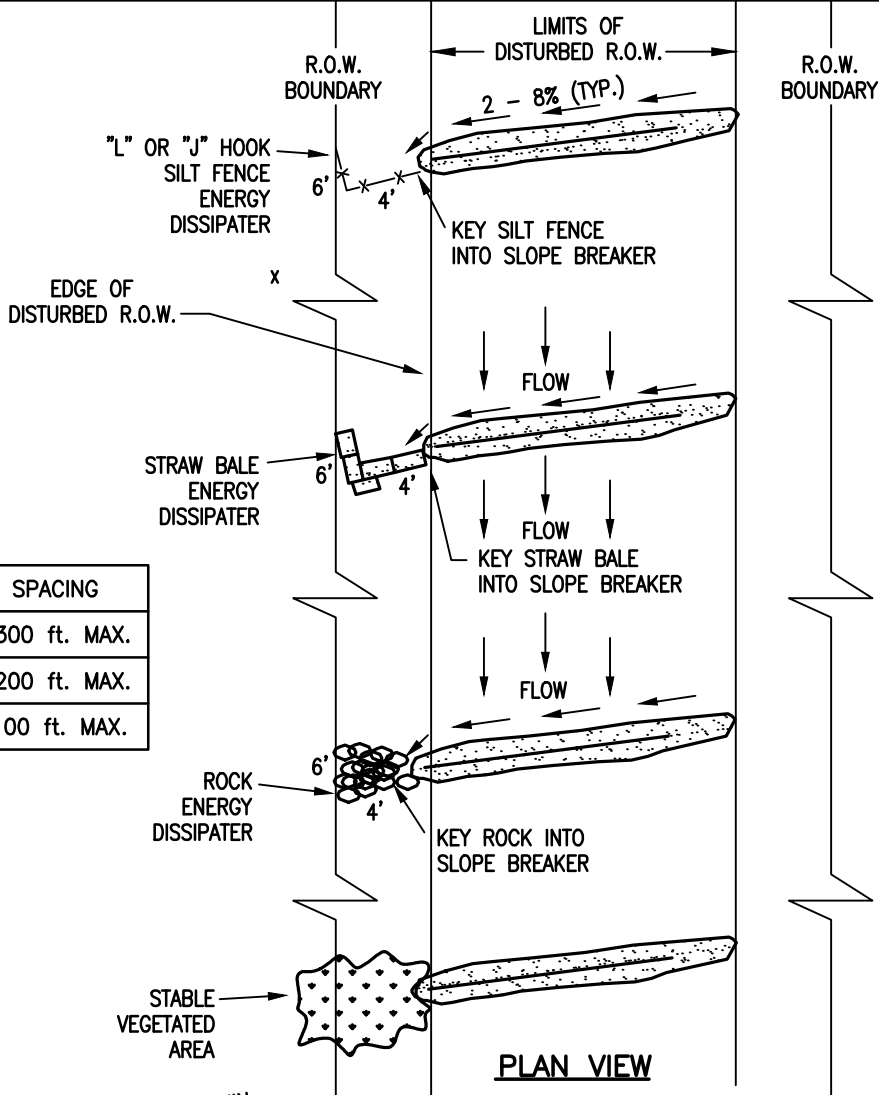


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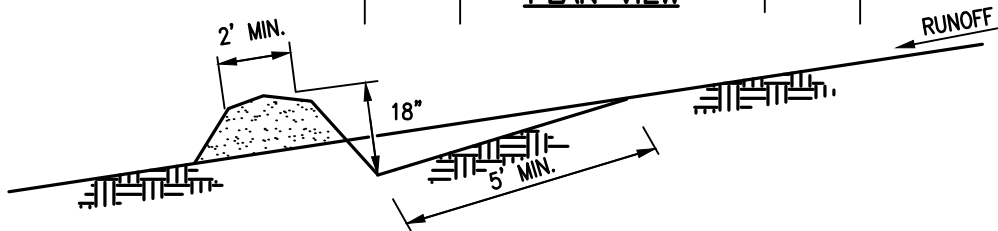
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| DEGREES | SPACING |
|---------|--------------|
| 5-15 | 300 ft. MAX. |
| 15-30 | 200 ft. MAX. |
| > 30 | 100 ft. MAX. |



NOTES: SLOPE BREAKER CROSS SECTION DETAIL

1. SLOPE BREAKERS SHALL BE CONSTRUCTED OF COMPACTED NATIVE SOIL AND INSTALLED AT LOCATIONS AS REQUIRED BY SECTION C1260 OF CONSTRUCTION STANDARDS OR AS DIRECTED BY THE COMPANY'S REPRESENTATIVE.
 2. SLOPE BREAKERS SHALL BE ORIENTED AS SHOWN OR OTHER PATTERN AS DIRECTED BY THE COMPANY'S REPRESENTATIVE TO DIRECT THE WATER OFF THE R.O.W..
 3. SLOPE BREAKERS SHALL BE CONSTRUCTED AT A 2-8% GRADIENT ACROSS THE SLOPE.
 4. THE SLOPE BREAKERS SHALL BE 18" DEEP (AS MEASURED FROM THE TROUGH TO THE TOP OF THE SLOPE BREAKER). THE TROUGH WILL BE A MINIMUM OF 5' WIDE ACROSS THE WIDTH OF THE RIGHT-OF-WAY.
- *SEE DWG. #CST-P-1260-A220.2 FOR ADDITIONAL INFORMATION.



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TYPICAL
SLOPE BREAKER

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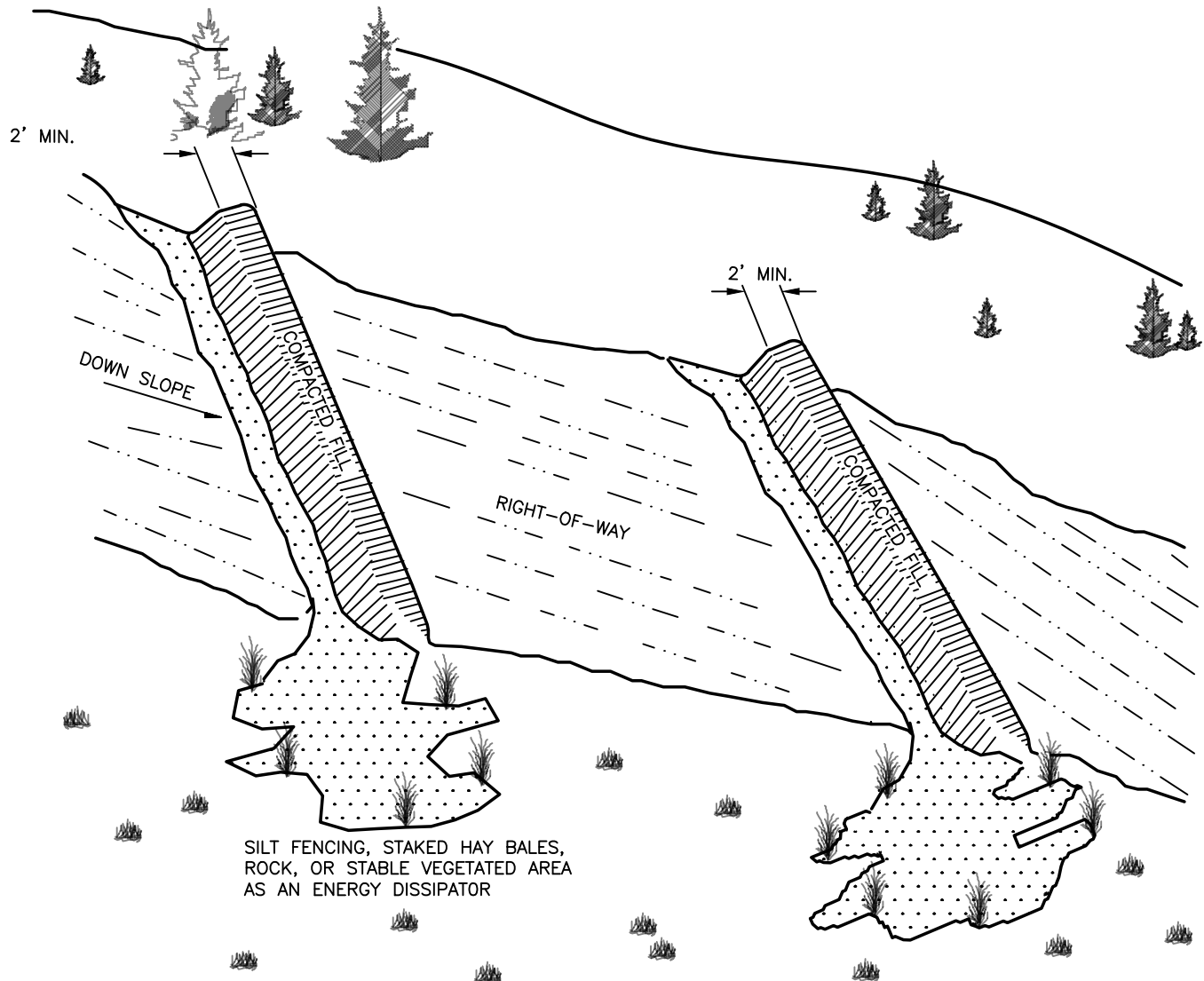
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NOTES:

1. SLOPE BREAKERS SHALL BE CONSTRUCTED AND INSTALLED AT LOCATIONS AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
2. SLOPE BREAKER SHALL BE ORIENTED AS SHOWN OR OTHER PATTERN AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR TO DIRECT THE WATER OFF THE R.O.W.
3. THE SLOPE BREAKERS SHALL BE 500mm DEEP (AS MEASURED FROM THE TROUGH TO THE TOP OF THE SLOPE BREAKER). THE TROUGH WILL BE A MINIMUM OF 2m WIDE ACROSS THE WIDTH OF THE RIGHT-OF-WAY.
4. THE OUTLET OF THE SLOPE BREAKER MUST FREELY DISCHARGE ALL RUNOFF OFF THE DISTURBED R.O.W. INTO A STABLE, WELL VEGETATED AREA OR INTO AN ENERGY DISSIPATOR.
5. WHERE SLOPE BREAKERS EXTEND BEYOND THE EDGE OF THE CONSTRUCTION R.O.W. TO DIRECT RUNOFF INTO STABLE, WELL VEGETATED AREAS, THESE LOCATIONS MUST BE APPROVED BY THE ENVIRONMENTAL INSPECTOR.

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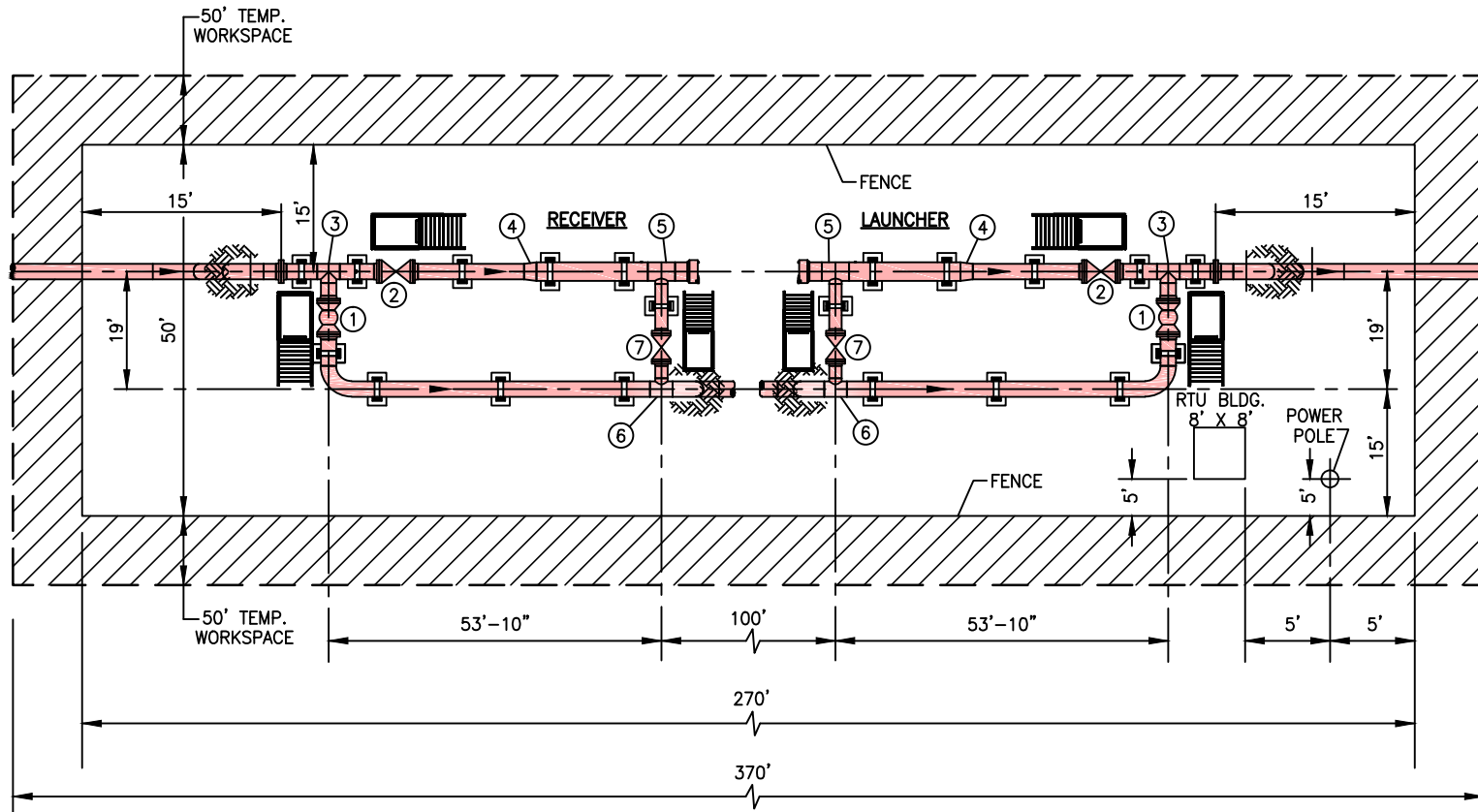
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PROJECT NO: 10395700



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TYPICAL
SLOPE BREAKER

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- ① 30" BALL VALVE
- ② 30" EXPANDING GATE VALVE
- ③ 30" BARRED TEE
- ④ 36" X 30" ECC RED
- ⑤ 36" X 24" BARRED RED. TEE
- ⑥ 30" X 24" RED TEE
- ⑦ 24" EXPANDING GATE VALVE

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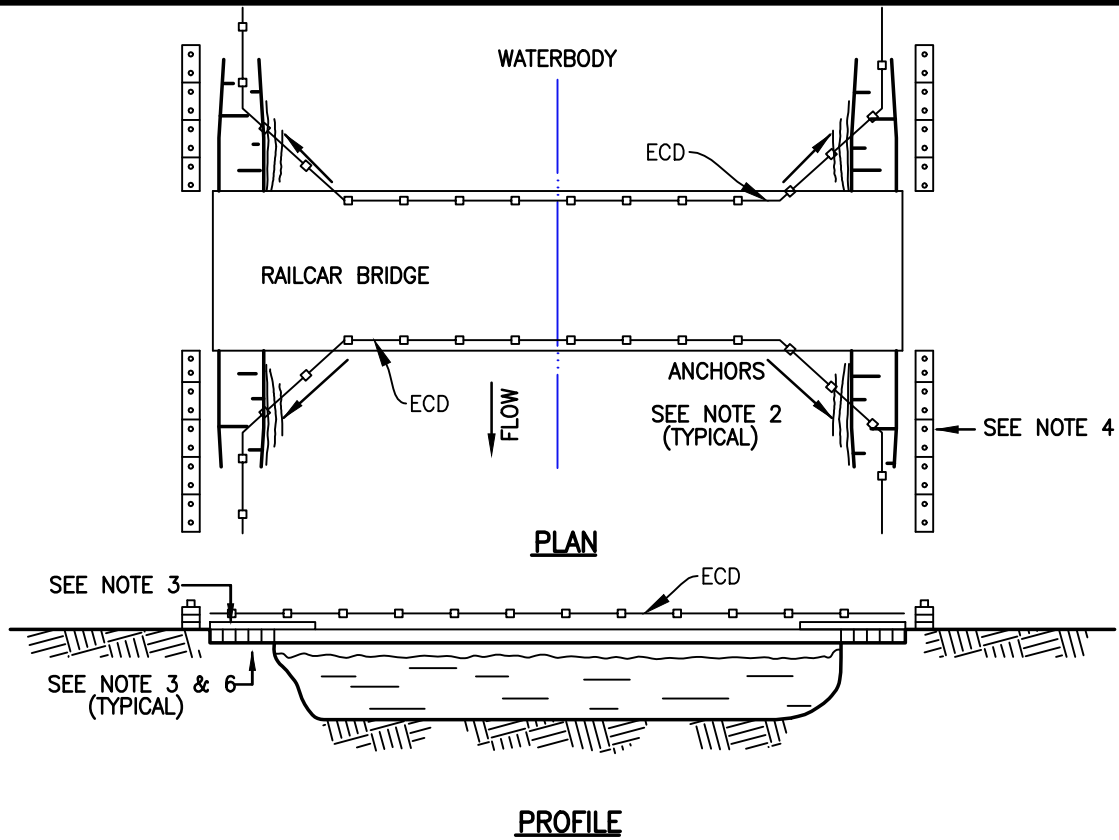


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TYPICAL
PIPING PLAN RECEIVER AND LAUNCHER PIPELINE

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ECD:
 EROSION CONTROL DEVICE
 (SILT FENCE, STRAW BALES OR SANDBAGS).

NOTES:

1. BRIDGE SHALL BE ANCHORED AND/OR TIED OFF TO ANCHOR BLOCKS FOR STABILITY.
2. IF REQUIRED, UTILIZE APPROACH FILLS OF CLEAN ROCK MATERIAL, SWAMP MATS, SKIDS OR OTHER SUITABLE MATERIALS TO AVOID CUTTING THE BANKS WHEREVER FEASIBLE. ENSURE ADEQUATE FREEBOARD. ENSURE THAT FILL MATERIAL, IF USED, DOES NOT SPILL INTO WATERCOURSE.
3. CONSTRUCT SEDIMENT BARRIERS ACROSS THE ENTIRE CONSTRUCTION R.O.W. TO PREVENT SILT LADEN WATER AND SPOIL FORM FLOWING BACK INTO WATERBODY. BARRIERS MAY BE TEMPORARILY REMOVED TO ALLOW CONSTRUCTION ACTIVITIES BUT MUST BE REPLACED BY THE END OF EACH WORK DAY. ENVIRONMENTAL CONTROL DEVICES (SILT FENCE, STRAW BALES OR SANDBAGS) MAY BE USED INTERCHANGEABLY.
4. REMOVE BRIDGES AS SOON AS POSSIBLE AFTER PERMANENT SEEDING UNLESS OTHERWISE DIRECTED BY REPRESENTATIVE. THE STRUCTURE IS TO BE REMOVED IF THERE IS MORE THAN ONE MONTH BETWEEN FINAL GRADING AND SEEDING, AND ALTERNATIVE ACCESS TO THE CONSTRUCTION R.O.W. IS AVAILABLE.
5. DISPOSE OF A ROCK AS DIRECTED BY COMPANY REPRESENTATIVE.
6. RESTORE AND STABILIZE BED AND BANKS TO APPROXIMATE PRE-CONSTRUCTION CONDITIONS.

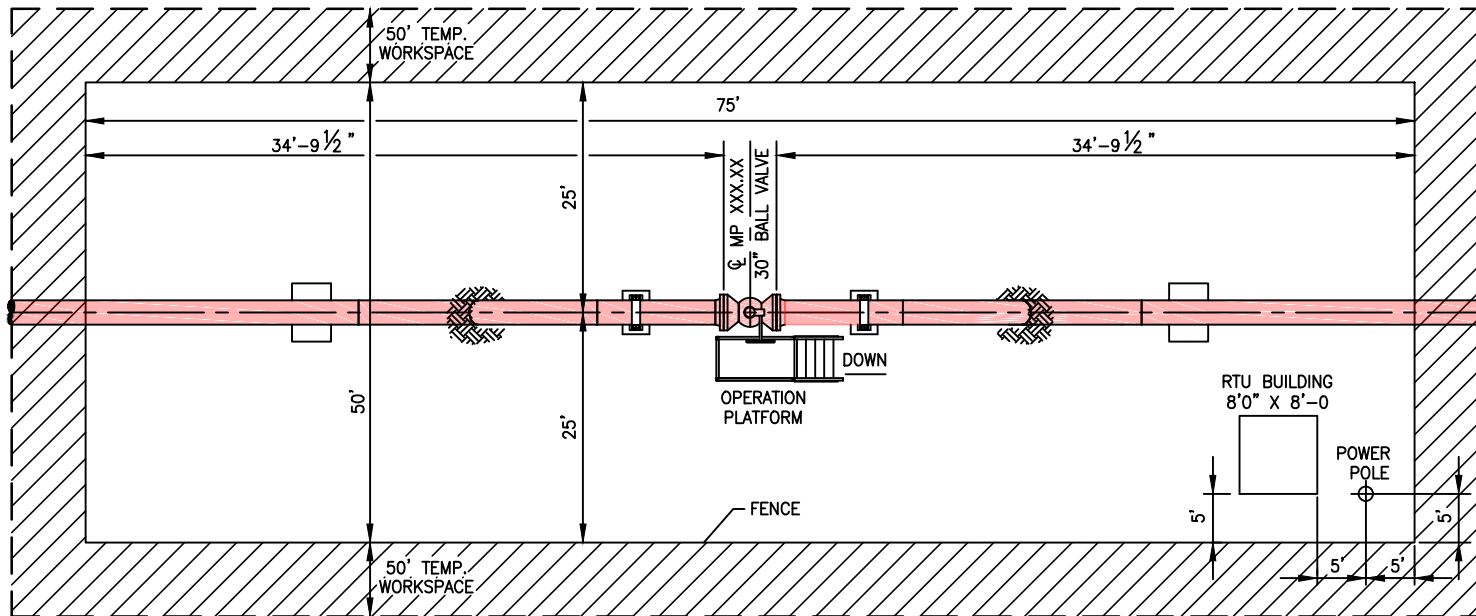
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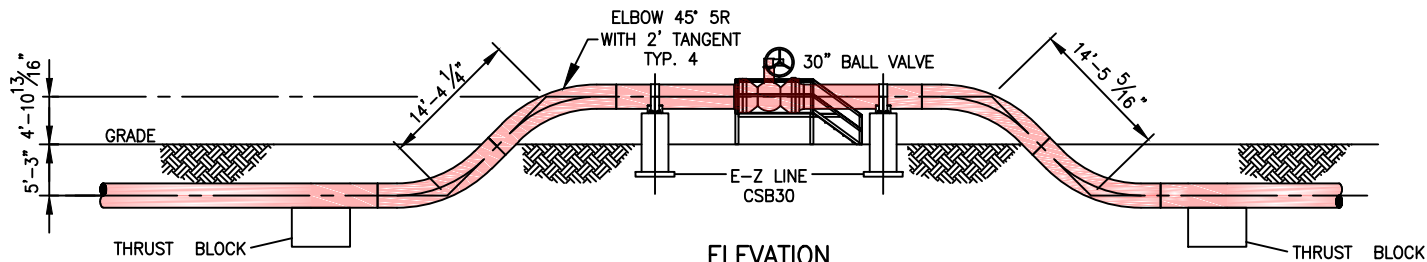
**TYPICAL
 CLEARSPAN BRIDGE WITH RAILCAR**

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PLAN

N.T.S.



ELEVATION

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PROJECT NO: 10395700



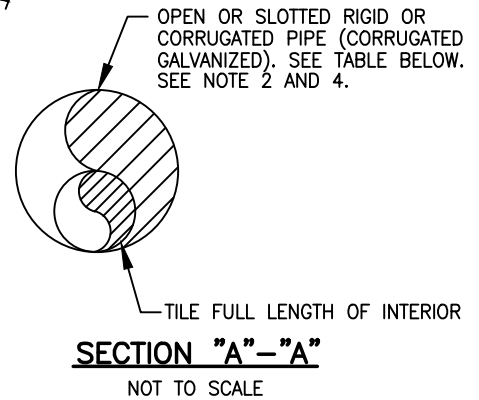
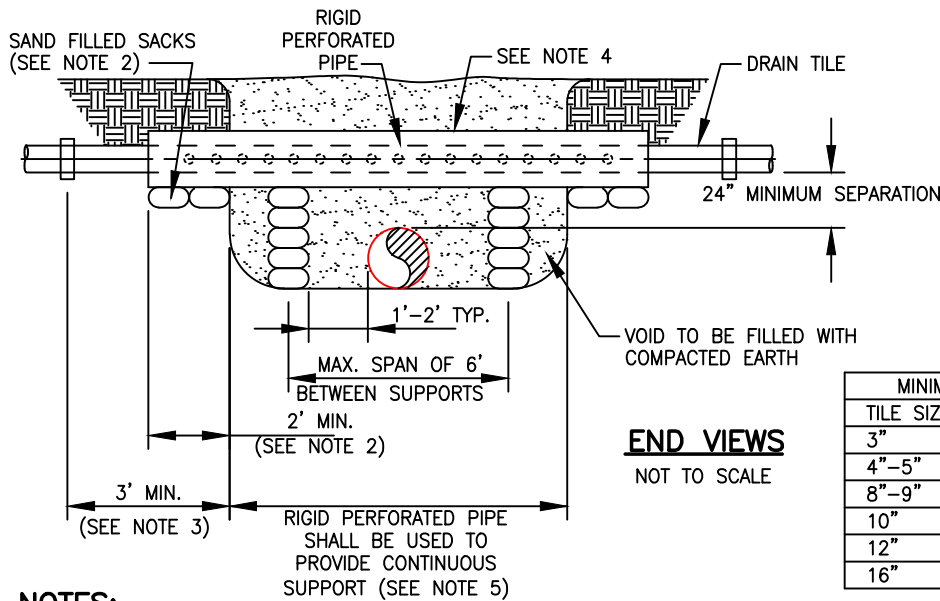
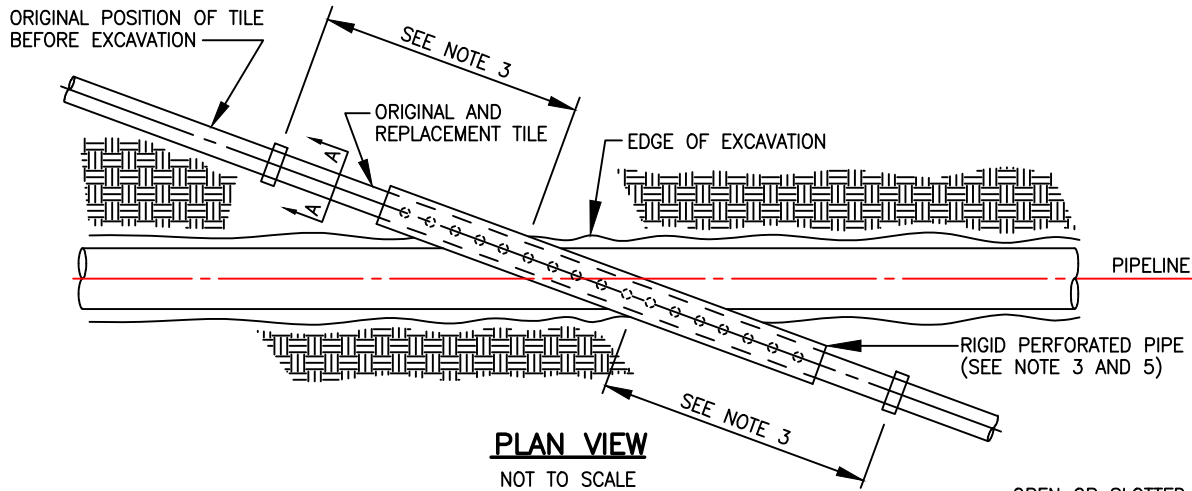
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**TYPICAL
PIPING PLAN AND ELEVATION
30" MAINLINE VALVE PIPELINE**

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| MINIMUM SUPPORT TABLE | | |
|-----------------------|-----------|----------|
| TILE SIZE | PIPE SIZE | |
| 3" | 4" | STD. WT. |
| 4"-5" | 6" | STD. WT. |
| 8"-9" | 10" | STD. WT. |
| 10" | 12" | STD. WT. |
| 12" | 16" | STD. WT. |
| 16" | 20" | STD. WT. |

NOTES:

- TILE REPAIR AND REPLACEMENT SHALL MAINTAIN ORIGINAL ALIGNMENT GRADIENT AND WATER FLOW TO THE GREATEST EXTENT POSSIBLE. IF THE TILE NEEDS TO BE RELOCATED, THE INSTALLATION ANGLE MAY VARY DUE TO SITE SPECIFIC CONDITIONS AND LANDOWNER RECOMMENDATIONS.
- 2'-0" MINIMUM LENGTH OF RIGID PERFORATED PIPE SHALL BE SUPPORTED BY UNDISTURBED SOIL, OR IF CROSSING IS NOT AT RIGHT ANGLES TO PIPELINE, EQUIVALENT LENGTH PERPENDICULAR TO TRENCH. SHIM WITH SAND BAGS ONLY TO UNDISTURBED SOIL FOR SUPPORT AND DRAINAGE GRADIENT MAINTENANCE (TYPICAL BOTH SIDES).
- DRAIN TILES WILL BE PERMANENTLY CONNECTED TO EXISTING DRAIN TILES A MINIMUM OF THREE FEET OUTSIDE OF EXCAVATED TRENCH LINE USING INDUSTRY STANDARDS TO ENSURE PROPER SEAL OF REPAIRED DRAIN TILES INCLUDING SLIP COUPLINGS.
- DIAMETER OF RIGID PIPE SHALL BE OF ADEQUATE SIZE TO ALLOW FOR THE INSTALLATION OF THE TILE FOR THE FULL LENGTH OF THE RIGID PIPE.
- OTHER METHODS OF SUPPORTING DRAIN TILE MAY BE USED IF ALTERNATE PROPOSED IS EQUIVALENT IN STRENGTH AND IF APPROVED BY COMPANY REPRESENTATIVES AND LANDOWNER IN ADVANCE. SITE SPECIFIC ALTERNATE SUPPORT SYSTEM TO BE DEVELOPED BY COMPANY REPRESENTATIVES AND FURNISHED TO CONTRACTOR FOR SPANS IN EXCESS OF 20', TILE GREATER THAN 10" DIAMETER, AND FOR "HEADER" SYSTEMS.
- ALL MATERIAL TO BE FURNISHED BY CONTRACTOR.
- PRIOR TO REPAIRING TILE, CONTRACTOR SHALL SWAB Laterally INTO THE EXISTING TILE TO FULL WIDTH OF THE RIGHTS OF WAY TO DETERMINE IF ADDITIONAL DAMAGE HAS OCCURRED. ALL DAMAGED/DISTURBED TILE SHALL BE REPAIRED AS NEAR AS PRACTICABLE TO ITS ORIGINAL OR BETTER CONDITION.

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| TYPICAL CONSTRUCTION PERMANENT DRAIN TILE REPAIR | | | |
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C.3

Stormwater Pollution Prevention Plan (SWPPP) (with Spill Prevention Control and Countermeasure Plan)



DAKOTA ACCESS, LLC

Dakota Access Pipeline (DAPL) Project

Stormwater Pollution Prevention Plan



Document No.: DAPL-WGM-GN000-HSE-PLN-0001

Project No.: 10395700


| REV | DATE | DESCRIPTION | ORIG | CHK | APPR |
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| A | 8-26-2014 | Issued for Review | JCD | JW | DJ |
| B | 09-11-2014 | Issued for Approval | JCD | JW | DJ |
| C | 12-12-2014 | Revised | JCD | JW | DJ |
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- Appendix A Best Management Practices Figures (Typicals)
- Appendix B Spill Prevention Control and Countermeasures Plan
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1.0 INTRODUCTION

Dakota Access, LLC (COMPANY) will implement this Stormwater Pollution Prevention Plan (SWPPP) during construction of the Dakota Access Pipeline (DAPL) Project in North Dakota. The primary purpose of the SWPPP is to minimize the impacts of stormwater runoff during Project construction activities through the implementation of Best Management Practices (BMP).

1.1 RESPONSIBILITY FOR IMPLEMENTATION

The Construction Manager is responsible for implementation of the SWPPP. As stated in the construction contract or as otherwise agreed, the Contractor may be responsible for all or part of the implementation of the SWPPP. Where Environmental Inspectors (EI) or Chief Inspectors (CI) are utilized, they will fulfill the responsibilities as described herein. If neither an EI nor CI is utilized for the Project, those responsibilities will be assumed by the Construction Manager (CM) or a designee.

2.0 SITE DESCRIPTION


2.1 PROJECT NAME, LOCATION, AND PURPOSE

Project Name: Dakota Access Pipeline (DAPL) Project.

Project Purpose: Dakota Access’s primary objective for the proposed Project is to allow for transport of approximately 450,000 BPD of crude oil between Stanley, ND and Patoka, IL. The crude oil transported will provide supplemental crude oil supply for markets in the United States. In addition, the proposed Project will open railroad transport for other products produced locally that otherwise would not be accessible to other markets.

Project Location: The DAPL Project consists of a Supply Line and a Mainline Transmission Pipeline for transmission of crude oil (see Figure 1). The Supply Line commences at Stanley, North Dakota and ends at Johnson Corner, North Dakota. There are six proposed tank facilities along the Supply System, namely Stanley, Ramberg, Epping, Trenton, Watford City, and Johnson Corner. At each tank facility there will also be metering, pumping, and pigging facilities. The Mainline Transmission Pipeline begins at Johnson Corner, North Dakota and ends southeast of the proposed Illinois Patoka Custody Transfer and Metering Station.

There will be mainline valve sites on both sides of major water body and major highway crossings and other high consequence areas as necessary for isolation in the event of emergency shutdown. In addition to the mainline valves, three pump stations and one custody transfer metering station will also be installed along the Mainline Transmission Pipeline.

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Launcher and Receiver traps will also be installed along the Mainline Transmission Pipeline.


2.2 NATURE OF THE CONSTRUCTION ACTIVITY

Dakota Access proposes to install the new pipeline within a variable-width construction right-of-way. Actual workspace width will depend on site engineering and available workspace constraints. In general, the pipeline will be constructed using an approximate 150-foot-wide construction right-of-way, which includes a new proposed 50-foot-wide permanent easement and 100-foot-wide temporary easement. The temporary easement will be allowed to revert to its original land use following construction. All Project pump stations in North Dakota will be located with new tank terminal facilities on the Supply Line.

2.3 SEQUENCE OF MAJOR SOIL-DISTURBING EVENTS

To minimize impacts, construction will be expedited as practical to reduce the time soils are exposed. The following represents a typical sequence of major soil-disturbing events during the Project:

- Installation of stabilized construction entrances
- Clearing of the Project Right-Of-Way area as necessary. This may include clearing of brush and trees to create right-of-way needed for temporary workspace, soil storage, construction activities, and areas needed for access to particular construction sites within the Project area.
- Installation of BMPs for erosion and stormwater management, as needed; including temporary bridges and mats where necessary.
- Pipe stringing, bending, welding, and testing.
- Excavation of ditch (trackhoes or similar equipment will be used to excavate the ditch to the required depth).
- Installation of pipe in ditch.
- Tie-ins of the sections of pipeline which will be welded together in the ditch.
- Backfilling the ditch line (excavated soil will be used to cover the pipe).
- Hydrostatic testing of the pipeline as necessary.
- Removal of temporary erosion/sediment controls when construction activity is completed, temporary controls are replaced by permanent controls and/or final

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stabilization is achieved.

3.0 CONTROLS


This section describes controls used to prevent or control stormwater pollution. BMPs are based on the current best accepted practices endorsed by the American Gas Association, Gas Research Institute, Association of Pipeline Contractors, EPA, and USACE. Appendix A contains diagrams showing typical installation of BMPs.

The Project's EI is responsible for insuring compliance with the schedule and placement of BMPs, and implementing the guidelines from the SWPPP design. This plan will be updated by the Contractor, EI, and/or CI to identify the location and schedule of planned or installed controls as the need for these controls is determined.

When used from this point forward in this Plan, "EI" will refer to the responsible person, whether it is the EI, CI, Health, Safety and Environmental (HSE) Coordinator, or Project Manager or other responsible person.

The following represents a typical sequence of major soil-disturbing events during the Project and the control measures that will be implemented.

- Clearing of the Project area as necessary. This may include clearing of brush and trees in the right-of-way, in areas adjacent to the right-of-way needed for soil storage, and/or in areas needed for access to particular construction sites within the Project area. The Project's EI will implement such measures as temporary slope breakers, silt fencing, and hay/straw bales prior to any soil-disturbing activities, and will install additional BMPs for erosion and stormwater management, as needed based on existing site conditions.
- Excavation of ditch (trackhoes or similar equipment will be used to excavate the ditch to the required depth). The Project's EI will implement such measures as temporary slope breakers, silt fencing, and hay/straw bales prior to excavation activities, and will install additional BMPs for erosion and stormwater management, as needed based on existing site conditions.
- Backfilling the ditch line (excavated soil will be used to cover the pipe). The Project's EI will implement such measures as temporary slope breakers, silt fencing, and hay/straw bales prior to backfilling, and will install additional BMPs for erosion and stormwater management, as needed based on existing site conditions.
- Performing cleanup and stabilization. This phase will begin after backfilling and will

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continue throughout the remainder of the Project's construction. This phase will include minor grading to level small areas, and revegetation. Project areas to be stabilized by vegetation will be seeded and mulched. Final stabilization is when uniform perennial vegetative cover with a density of 70 percent over the entire pervious surface has been achieved.

- The Project's EI will remove temporary erosion/sediment controls when other construction activity is completed and final stabilization is achieved.

3.1 **EROSION AND SEDIMENT CONTROLS**

3.1.1 **Short- and Long-Term Goals and Criteria (as applicable)**

(a) The construction phase erosion and sediment controls are designed to retain sediment on-site to the extent practicable.


(b) Control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices.

(c) If periodic inspections or other information indicate that a control has been installed and/or used inappropriately and/or incorrectly, the control shall be replaced and/or modified as needed.

(d) If sediment escapes the Project area, off-site accumulations of sediment must be removed at a frequency sufficient to minimize off-site impact (e.g., fugitive sediment in street could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).

(e) Sediment must be removed from sediment devices when sediments reach 1/3 the height of the device and within 24 hours of discovery, or as soon as field conditions allow access. Drainage and removal from sediment basins must be completed when the depth of the sediment reaches 1/2 the storage volume and within 72 hours of discovery, or as soon as field conditions allow access.

(f) Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

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3.1.2 Temporary Erosion Control Measures


The following temporary erosion and sediment controls will be utilized as necessary:

Temporary Slope Breakers: Temporary slope breakers (water bars/terraces) will be installed as necessary (at the EI's discretion) diagonally across the right-of-way on slopes to control erosion by reducing and shortening the velocity, length and concentration of runoff according to the figures provided in Appendix A. These breakers will divert water to a well-vegetated area. If a vegetated area is not available, erosion control barriers will be installed to filter the runoff at the outlet of the slope breakers and off of the construction right-of-way. Silt fence, hay/straw bales, or sandbags may be used in place of temporary slope breakers at the discretion of the EI.

Natural vegetation acts as an effective filter medium for silt removal from surface runoff. Its use as a sediment barrier results in less disturbance to the land than other methods. In areas where natural vegetation is not present or does not constitute a suitable barrier, temporary sediment and/or erosion control barriers will be installed. Temporary sediment barriers, typically hay/straw bale filters or silt fences, dissipate the energy of flowing water to allow settlement of sediment from surface water runoff.

Silt Fence/Hay/Straw Bales: Silt fences and hay/straw bales will be installed in accordance with figures provided in Appendix A. The silt fences and/or hay/straw bales will be installed as necessary to prevent erosion and sediment laden runoff from stormwater discharges. These measures will remain in place until replaced with permanent control devised or permanent revegetation measures have been judged successful. Silt fence and hay bale structures are also used to control erosion and sedimentation for hydrostatic test water discharges. Bale filters are effective for small rills that can be spanned by one or two bales. Bales are constructed of hay (or straw) that is securely bound to form a berm, which is held in place by two stakes driven through each bale. The first stake is driven at an angle toward the previously positioned bale, and the second stake is driven perpendicular to ground surface. The bindings of the bales will be horizontal. Filter fabric fences (silt fences) perform the same function as hay bale berms, but have the advantage of ease of installation, versatility, and light weight.

A silt fence is a geotextile fabric with fence posts spaced no more than 5 feet apart. Both silt fences and hay/straw bales will be installed according to the manufacturer's instructions where site conditions allow. Otherwise, the silt fence will be imbedded in the ground a minimum of 6 inches. Where two sections are joined, they will be overlapped a minimum of 6 inches. Accumulated sediment will be removed regularly and the silt fencing inspected to ensure the bottom of the silt fence remains imbedded in the ground. If the accumulated sediment reaches one-third the height of the silt fencing, the sediment shall be removed and the fencing replaced

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and/or repaired as necessary. A sufficient stockpile of silt fence will be maintained on-site for emergency use.


These barriers are required after the initial disturbance of the soil and are typically installed at the following locations:

- At the outlet of a temporary slope breaker when vegetation is not enough to control erosion.
- Along banks of waterbodies between the graded right-of-way and the waterbody after clearing.
- Downslope of any stockpiled soil in the vicinity of waterbodies and wetlands.
- At the base of slopes adjacent to road crossings where vegetation has been disturbed.
- At sideslope and downslope boundaries of the construction where runoff is not otherwise directed by temporary slope breakers.
- In the right-of-way at boundaries between wetlands and adjacent disturbed upland areas to prevent flow of sediment into the wetland where runoff is not otherwise directed by a temporary slope breaker.
- At the edge of the right-of-way to prevent siltation of ponds, wetlands, or other waterbodies adjacent to the downslope of the right-of-way or as necessary to contain spoil and sediment within the right-of-way.
- For hydrostatic test water discharges, the water should be released directly into the silt fence/hay bale structures in conjunction with other approved velocity dissipating devices.

Temporary Trench Plugs: Temporary trench plugs prevent water diversion from waterbodies or drainage tiles into upland portions of the pipeline trench during construction and prevent silt-laden stormwater from flowing down the trench into waterbodies or sensitive features. The EI or CI will determine the need for and spacing of trench plugs. Trench plugs will be utilized if precipitation is expected before backfill through the feature or down the slope is complete.

3.1.3 Stabilization Practices

The stabilization measures of the pipeline right-of-way incorporate permanent erosion and sedimentation measures. However, in the event that final restoration cannot be implemented

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immediately post-construction, temporary erosion and sedimentation control measures will be employed as specified by the Contractor until the weather is suitable for final cleanup.

For pipeline construction in areas with sloping terrain, COMPANY will use permanent trench plugs for soil stabilization in accordance with the specifications on the typicals attached in Appendix A.


3.1.3.1 Upland Areas

Temporary Stabilization:

- Temporary stabilization measures will be initiated as soon as practicable in portions of the right-of-way where construction activities have temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day is precluded by weather, stabilization measures will be initiated as soon as machinery is able to access the right-of-way. If activities resume within 21 days from when the activities ceased, stabilization measures do not have to be initiated by the 14th day following cessation of the activity. These guidelines are based on National Pollutant Discharge Elimination System (NPDES) requirements; however this does not apply in North Dakota.
- In the event that construction is completed more than 30 days before the seeding season for perennial vegetation, areas adjacent to waterbodies will be mulched with 3 tons/acre of straw, or its equivalent, to a minimum of 100 feet on either side of the waterbody.
- Temporary sediment barriers may be removed from an area when that area is successfully revegetated (i.e., if the right-of-way surface condition is similar to adjacent undisturbed lands) or it is replaced with a permanent sediment barrier.

Permanent Stabilization:

- Erosion and sedimentation control practices (installation of structures, revegetation, and maintenance practices) will be implemented to minimize the potential for soil erosion or sedimentation of streams and to restore the right-of-way and any other disturbed areas. Final grading will be completed within 10 days of construction completion (including the installation of permanent erosion control measures in the areas of steep slopes only), weather permitting. Construction debris will be removed from the right-of-way and the right-of-way will be graded so that the soil is left in proper condition for planting.


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- The disturbed right-of-way will be graded to preconstruction contours, as practical, with a small crown of soil left over the ditch to compensate for settling, as approved by the agricultural inspector (AI), CM, EI, and/or CI. Openings will be left in the completed crown to restore lateral surface drainage to preconstruction patterns.
- Where topsoil has been segregated, the topsoil will be spread back last along the right-of-way in an even layer.
- Fences that were cut and replaced by gaps during construction will be repaired to at least their equivalent state during preconstruction activities.
- Permanent slope breakers will be constructed after final grading and prior to seeding in accordance with the applicable regulations to replace temporary barriers at pedestrian, trail, road, waterbody, and wetland crossings.

3.1.3.2 **Revegetation and Seeding**

Seed, fertilizer, and agricultural lime application will be accomplished at the following rates and mixtures unless otherwise instructed by applicable permits or land managing agency requirements:

- Seed Mixture: German Foxtail Millet "hulled" at a rate of 20 pounds per acre, with "hulled" Bermuda grass at a rate of 10 pounds per acre.
- Fertilizer: 5-19-19 at a rate of 300 pounds per acre.
- Agricultural Lime: at a rate of 2,000 pounds per acre.
- Final revegetation standards that will be used by COMPANY for stabilization of the right-of-way will be determined through discussions with the individual state and local agencies and through the permit process.
- The right-of-way will be seeded after final grading in accordance with recommended seeding dates, weather and soil conditions permitting.
- Turf, ornamental shrubs, and other landscaping materials will be restored in accordance with landowner agreements. Selection is based on adaptation of plants to the soils and climate, ease of establishment, suitability for specific use, longevity or ability to re-seed, maintenance required, aesthetic values, and landowner agreement. Personnel familiar with local horticultural and turf establishment practices must perform the restoration


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work.

- Where broadcast or hydro seeding is to be done, the seedbed will be prepared as necessary to ensure sites for seeds to lodge and germinate.
- Where hand broadcast seeding is used, the seed will be applied at one-half the rate in each of two separate passes.
- The seedbed will be prepared to a depth of 3 to 4 inches using appropriate equipment to provide a firm, smooth seedbed that is free of debris.
- The Project area should be seeded as deemed appropriate by the CM and/or EI. If seeding cannot be done soon after final grading, temporary erosion and sediment controls will be used and seeding of permanent cover will be done at the beginning of the next seeding season. Meanwhile, temporary stabilization measures will be implemented as appropriate.
- Slopes steeper than 3:1 will be seeded immediately after final grading in accordance with recommended seeding dates, weather permitting.
- Seed will be purchased in accordance with the Pure Live Seed (PLS) specifications for seed mixes and used within 12 months of testing.
- Legume seed will be treated with an inoculant specific to the species. The manufacturer's recommended inoculant rates will be used.
- The seed will be uniformly applied and covered 0.5 to 1 inch deep, depending on seed size. A seed drill equipped with cultipacker is preferred, but broadcast or hydro seeding can be used at double the recommended seeding rates. Where broadcast seeding is used, the seedbed will be firmed with a cultipacker, roller, or similar method after seeding.
- Other alternative seed mixes specifically requested by the landowner or land-managing agency may be used.
- Areas that are seeded after the recommended seeding date should be mulched if permitted.

3.1.3.3 Wetland Restoration

- COMPANY's approach to wetland mitigation and restoration involves a combination of

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impact minimization during construction, substrate and hydrology restoration, and vegetation establishment involving successful natural processes as a key component.

- The construction workspace for the Project will be designed to limit impacts to wetlands.
- During the restoration phase, segregated topsoil will be replaced over the trenchline and wetland contours and drainage patterns will be restored to approximate original condition. Surface rocks and boulders that had been windrowed during the construction phase will be distributed in a natural pre-construction configuration in the temporary work areas. Following restoration of the substrate, wetlands may be seeded with annual ryegrass or other seed mixture as directed by regulatory agencies.

3.1.3.4 Riparian Areas


Riparian areas are defined as "on or pertaining to the bank of a natural course of water" (stream, pond, lake, or wetland). The EPA defines "riparian areas" as areas adjacent to streams and lakes where the high water table creates distinct soil and vegetative characteristics from the *adjacent* uplands.

- Following installation of the pipeline, stream banks and riparian areas will be re-contoured and stabilized. Banks will typically be stabilized with an herbaceous mixture and erosion control fabric such as jute netting. Rock riprap may be used to stabilize particularly erosive or unstable areas at the recommendation/approval of appropriate agencies.

3.1.4 Other Surface Applications

Other surface applications will be applied as outlined below unless otherwise instructed by applicable permits or land managing agency requirements:

- (a) **Mulch:** After seeding, mulch may be applied as determined necessary by the EI at a rate of approximately 2 tons/acre on the entire right-of-way except on wetlands, lawns, agricultural crop areas, and areas where hydro-mulch is used. Mulching before seeding may be done if construction or restoration activity is interrupted for an extended period, such as when seeding cannot be completed due to seeding period restrictions. Except for site-specific locations that may be identified during construction, mulch before seeding if final cleanup (including final grading and installation of permanent erosion controls in the areas of steep slopes) is not completed in an area within approximately 10 days after construction completion.

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If mulching occurs before seeding, the Contractor shall increase mulch application on slopes within 100 feet of waterbodies and wetlands to a rate of 3 tons/acre. Up to 1 ton/acre of wood chips may be added to mulch if areas are top-dressed with 11 pounds/acre available nitrogen (at least 50 percent of which is slow release).

If a mulch blower is used, the strands will not be shredded to less than 8 inches in length to allow anchoring. The mulch will be anchored immediately after placement to minimize loss by wind and water. When anchoring by mechanical means, the Contractor shall use a mulch-anchoring tool to properly crimp the mulch to a depth of 2 to 3 inches.

When anchoring with liquid mulch binders, the Contractor shall use the rates recommended by the manufacturer. The Contractor shall not use liquid mulch binders within 100 feet of wetlands or waterbodies.


(b) **Matting/Netting:** Matting or netting consists of curlex, jute, wood excelsior, or similar materials, and will be installed by the Contractor to anchor mulch and stabilize the surface of the soil during the critical period of vegetative establishment, where directed by the EI.

Matting or netting will be applied to critical, sensitive areas (e.g., steep slopes, banks of waterbodies, bar ditches) as specified by the EI or AI. On waterbody banks, the matting or netting will be installed at the time of the final bank re-contouring. In the event that erosion control fabric is not readily available, COMPANY will temporarily use mulch anchored via crimping (or some other means) or hydromulch until the erosion control fabric material becomes available. Matting or netting will be anchored with pegs or staples as recommended by the manufacturer.

3.2 **STORMWATER MANAGEMENT**

Stormwater management will be conducted through stormwater flow attenuation, velocity dissipation devices, and water filtration. COMPANY's construction procedures describe the criteria for placement and use of stormwater control methods/devices. The EI will have the authority to determine the location of controls above and beyond what the contractor may install.

If herbicides or pesticides are to be used for vegetation maintenance, the applications of those substances will be in accordance with applicable landowner and land management or state agency specifications. COMPANY will not use herbicides or pesticides in or within 100 feet of any waterbody except as specified by the appropriate agency or applicable regulation.

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3.3 OTHER CONTROLS

3.3.1 Waste Materials

(a) Trash, litter, and debris will be collected for off-site disposal; it will not be discarded along the right-of-way. Refuse will be disposed of according to state and local regulations.

(b) Solid waste that contains (or at any time contained) oil, grease, solvents, or other petroleum products, falls within the scope of the oil and hazardous substances control, cleanup, and disposal procedures of the Project Spill Prevention Control and Countermeasures (SPCC) plan. This material shall be segregated for handling and disposal as hazardous waste under the provisions of the plan.


3.3.2 Offsite Vehicle Tracking

(a) A stabilized construction entrance will be used, as necessary, to reduce vehicle tracking of soil and sediments. Access to the right-of-way will normally be from existing public roads. Attempts will be made to locate roadway crossings/access points to ensure that safe and accessible conditions exist throughout the construction phase. Use of 25-foot-long crushed stone access pads, sweeping, culvert installation, matting, and other forms of rutting protection may be used subject to local permit conditions. These may also be extended as needed for adequate protection. Periodic sweeping and scraping will remove sediment tracked onto public roads. If crushed stone access pads are used in active agricultural areas, the stone will be placed on a synthetic fabric to facilitate later removal.

(b) The stabilized construction entrances will be installed before clearing and grading. Once other construction activities permanently cease in an area, that area will be stabilized by reseeding and/or mulching as needed.

4.0 MAINTENANCE

Erosion and sediment control measures and other protective measures identified in this SWPPP must be maintained in effective operating condition. If site inspections identify erosion control devices that are not operating properly, maintenance shall be performed within 24 hours, before the next anticipated storm event, or as necessary to maintain the continued effectiveness of erosion controls. If maintenance prior to the next anticipated storm event is impractical, maintenance must be scheduled and accomplished as soon as practicable. Temporary sediment barriers will remain in place until replaced by permanent structures or revegetation has been judged successful.


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5.0 INSPECTIONS

The EI will inspect disturbed areas of the Project area that have not been finally stabilized (including areas used for storage of materials that are exposed to precipitation, staging areas, temporary contractor yards, access roads, structural control measures, and locations where vehicles enter or exit the site). The Project area should be considered stabilized when construction activity ceases and a uniform perennial vegetative cover of at least 70 percent density of pre-construction cover has been established.

Areas that are not revegetated should be considered to have achieved final stabilization when they have a permanent cover that will prevent erosion of soil by wind or water. At that time, activity under this plan, including inspections, will cease. Inspections shall be conducted as follows:

- **Inspect control measures** at least weekly in areas of active construction or equipment operation and at least once every 2 weeks in areas with no construction. Inspect within 24 hours of the end of a storm event that is 0.5 inch of rainfall or greater. The permittee shall use a rain gauge near the site or utilize the nearest National Weather Service precipitation gauge station. Control measures will be maintained in good working order; if repair is necessary, it should be initiated within 24 hours of report and completed as soon as possible.
- **Areas where final restoration** has occurred shall be inspected monthly until revegetation is successful.
- **Inspect disturbed areas** for evidence of or potential for pollutants entering the drainage system. Sediment from silt fences and other perimeter protection shall be removed when the perimeter protection is nonfunctional or when sediment reaches one-third the height of the protection. Additionally perimeter protection must be inspected to ensure that the bottom of the device remains imbedded in ground as necessary. Damaged fence and bales will be replaced with new bales as necessary.
- **Inspect material storage areas at least weekly** where materials are exposed to precipitation for evidence of potential for pollutants entering the drainage system.
- **Inspect vehicle entrances** for evidence of excessive off-site sediment tracking.
- **Inspect discharge points**, if accessible, to determine if erosion control measures are effective in preventing significant impacts to receiving waters. If these points are

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inaccessible, inspectors should inspect nearby downstream locations.

- Inspections can be suspended where activities have stopped due to frozen conditions. Inspections must resume when runoff occurs or the ground begins to thaw.
- Inspections can be suspended in areas where revegetation is successful.
- **Inspect annually** after both the first and second growing season after seeding to determine the success of revegetation.
- **Complete an inspection report** for each inspection performed. Inspection forms and form instructions provided in Appendix C provide additional guidance.

See Section 7 for additional detail on requirements for construction activity and inspection documentation and record keeping.

6.0 PLAN MODIFICATION


This plan may need to be modified and/or updated based on information and experience gathered during actual construction activities (e.g., include or modify BMPs designed to correct problems, etc.). If changes to the design, construction, or maintenance that can have significant effect on the potential for discharging pollutants in stormwater at the site occur, this plan should be modified accordingly by the Contractor, EI, and/or CI. In addition, if the plan proves to be ineffective in controlling pollutants, any necessary modifications to the application of the practices presented in this plan should be made by the Contractor, EI, and/or CI in order to prevent the discharge of pollutants into stormwater.

7.0 REQUIRED REPORTS, DOCUMENTATION, AND RECORDKEEPING

7.1 RECORDS RETENTION

All permit-related documents will be retained as part of the SWPPP for at least three years from the date that the site is finally stabilized as required by COMPANY's document retention policies. The following documentation will be kept on file at the construction site:

- A copy of this SWPPP and referenced attachment(s)
- Inspection reports
- Log of construction and BMP installation/maintenance activities and/or construction alignment sheets/construction plans showing the placement of BMPs.


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- Notice of Intent and Notice of Termination

7.2 INSPECTION REPORTS

A separate report will be developed for each inspection. Inspection reports will identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report will contain a certification that the facility is in compliance with this SWPPP. In addition, inspection reports should:


- Summarize the scope of the inspection.
- Provide the name(s), title(s), and qualifications of personnel making the inspection.
- Indicate the date(s) of the inspection.
- Provide weather information and a description of any discharges occurring at the time of the inspection.
- Provide weather information for the period since the last inspection (or since commencement of construction activity if first inspection), including:
 - A best-estimate of the beginning of each storm event
 - Duration of each storm event
 - Approximate amount of rainfall for each storm event (in inches)
 - If any discharges occurred
- Indicate the location(s) of discharges of sediment or other pollutants from the site.
- Indicate the location(s) of BMPs that need to be maintained.
- Indicate the location(s) of BMPs that failed to operate as designed or proved inadequate for that particular location and plans for correction of the problem (including implementation dates of corrective action).
- Indicate location(s) where additional BMPs are needed that did not exist at the time of inspection.

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7.3 LOG OF CONSTRUCTION AND BMP INSTALLATION AND MAINTENANCE ACTIVITIES

In addition to inspection and maintenance reports, keep a record of construction activity on the site with this SWPPP. In particular, keep record of the following:


- The dates when major grading activities occur in a particular area.
- The date when construction activities cease in an area, temporarily or permanently.
- The date when an area is stabilized, temporarily or permanently.
- Erosion control maintenance activities.

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8.0 SWPPP CERTIFICATION
8.1 COMPANY'S CERTIFICATION

I certify under penalty of law that this document and its appendices were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

| | |
|---|-----------------|
| Signed: _____ Print Name: _____ Title: _____ Company: _____ | Date : - |
|---|-----------------|

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8.2 CONTRACTOR'S/SUBCONTRACTOR'S CERTIFICATION

I certify under penalty of law that I understand the terms and conditions of the NDPDES permit that authorizes the stormwater discharges associated with industrial activity from the construction site identified as part of this certification.

Signed: _____ Date _____
 Print
 Name: _____
 Title: _____
 Company: _____

I certify under penalty of law that I understand the terms and conditions of the NDPDES permit that authorizes the stormwater discharges associated with industrial activity from the construction site identified as part of this certification.

Signed: _____ Date _____
 Print
 Name: _____
 Title: _____
 Company: _____

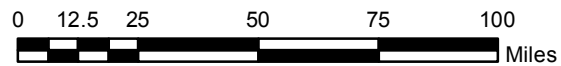
I certify under penalty of law that I understand the terms and conditions of the governing PDES permit that authorizes the stormwater discharges associated with industrial activity from the construction site identified as part of this certification.

Signed: _____ Date _____
 Print
 Name: _____
 Title: _____
 Company: _____



Legend

- ☆ Route Features
- Proposed Mainline Route
- Proposed Supply Line Route



**DAPL PROJECT
MAINLINE VICINITY MAP**

Date: 12-12-2014

Project #: 10395700

Figure 1

APPENDIX A
BEST MANAGEMENT PRACTICES FIGURES
(TYPICALS)

To Be Submitted At A Later Date

APPENDIX B

**DRAFT SPILL PREVENTION, CONTROL, AND
COUNTERMEASURES PLAN**

(Final plan to be furnished by the selected Contractor and will meet or exceed the draft plan)



DAKOTA ACCESS, LLC
An ENERGY TRANSFER Company

Dakota Access Pipeline (DAPL) Project

SPILL PREVENTION, CONTAINMENT, AND COUNTERMEASURES PLAN



Document No.: DAPL-WGM-GN000-HSE-PLN-0002

Project No.: 10395700

| REV | DATE | DESCRIPTION | ORIG | CHK | APPR |
|-----|------------|--------------------|------|-----|------|
| A | 8-27-2014 | Issued for Review | JCD | JW | DJ |
| B | 9-11-2014 | Issue for Approval | JCD | JW | DJ |
| C | 12-12-2014 | Revised | JCD | JW | DJ |
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1.0 INTRODUCTION

Dakota Access, LLC (COMPANY) has developed this Spill Prevention, Containment, and Countermeasures (SPCC) Plan for the Dakota Access Pipeline Project (Project) to provide preventative and mitigative measures to minimize the environmental impact associated with inadvertent spills or releases of fuel, lubricant, or hazardous materials during construction of the Project. These measures will be implemented by the construction contractor or inspection staff (unless otherwise indicated) during construction of the Project. Each construction contractor (Contractor) on the Project will be required to prepare a job-specific SPCC Plan which will be submitted prior to the commencement of construction.


2.0 PLANNING AND PREVENTION

COMPANY requires its Contractors to implement proper planning and preventive measures to minimize the likelihood of spills, and to quickly and successfully clean up a spill, should one occur. COMPANY has developed this SPCC Plan to set forth minimum standards for handling and storing regulated substances and for cleaning up spills. Potential sources of construction-related spills include storage tank leaks, machinery and equipment failure, and fuel handling and transfer accidents. The Contractor will be responsible for implementing, at a minimum, the following planning and prevention measures.

2.1 ROLES AND RESPONSIBILITIES

2.1.1 Spill Coordinator

- A Spill Coordinator shall be designated and employed by the Contractor, subject to approval.
- The Spill Coordinator shall mobilize on-site personnel, equipment, and materials for containment and/or cleanup commensurate with the extent of the spill.
- The Spill Coordinator shall assist the appropriate Emergency Response Contractor (Appendix H) and monitor containment activities to ensure that the actions are consistent with the requirements of this SPCC Plan.
- The Spill Coordinator and/or Chief Environmental Inspector or the Field Construction Manager, in consultation with appropriate agencies, shall determine when it is necessary to evacuate spill sites to safeguard human health.
- The Spill Coordinator shall notify the Environmental Manager and Chief Environmental Inspector immediately of any spill.
- The Spill Coordinator will assist the Chief Environmental Inspector in completion of a spill report form.

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- The Spill Coordinator will identify available Emergency Response Contractors, who are subject to approval.
- The Spill Coordinator should not contact an agency regarding a spill without authorization from the Environmental Manager and/or Chief Environmental Inspector.

2.1.2 Environmental Manager

- The “Environmental Manager” referred to in this SPCC Plan will be a designated COMPANY employee or a third-party Designee.
- The Environmental Manager will have a Chief Inspector located at the construction sites. The Chief Inspector may act on the behalf of the Environmental Manager on certain issues that will be defined before construction is started.
- The Chief Inspector will monitor the Contractor's compliance with the provisions of this SPCC Plan.
- All “reportable spills” must be reported immediately to the Construction Manager, Environmental Manager, and Chief Inspector (“reportable spills” will be defined by state-specific guidelines. See Appendix C). The Chief Inspector, with assistance from the Spill Coordinator, is responsible for completing a Spill Report Form (Appendix A) within 24 hours of the occurrence of a reportable spill.
- The Spill Coordinator and/or Environmental Manager or the Project Manager, in consultation with appropriate agencies, shall determine when it is necessary to evacuate spill sites to safeguard human health.
- The Environmental Manager will promptly report spills to the appropriate federal, state, and local agencies as required and coordinate with these agencies regarding contacting additional parties or agencies.

2.1.3 Field Construction Manager

- The “Field Construction Manager” referred to in this SPCC Plan will be the Chief Inspector, a designated COMPANY employee, or a third-party designee who is responsible for the management of construction activities on this Project (representing the Construction Manager for COMPANY).
- The Field Construction Manager is the initial point of contact of the Spill Coordinator when a spill occurs, and determines the containment measures that may be required.
- The Field Construction Manager is responsible for documenting the general information regarding any spills such as work stoppages, injuries, fires, and the extent of exposure to workers on the site.

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- The Field Construction Manager is responsible for coordinating any emergency response services that may be required such as the Fire Department, the Sheriff Department, or for contacting Emergency Response Contractors.

2.1.4 Authorized Personnel

- Authorized Personnel are representatives of the Contractor who are designated to handle fuel, lubricants, or other regulated substances.
- Authorized Personnel shall be familiar with the requirements of the SPCC Plan and the consequences of non-compliance.

2.1.5 Construction Superintendent

The Contractor's Construction Superintendent or representative must immediately notify the Environmental Manager and Chief Inspector of any spill of a petroleum product or hazardous liquid, regardless of volume.

2.1.6 Construction Personnel

- Construction Personnel are representatives of the Contractor involved with installation of the Project.
- Construction Personnel shall notify the Construction Superintendent or Spill Coordinator immediately of any spill of a petroleum product or hazardous liquid, regardless of volume.


2.1.7 Responsibility of Administration

The Contractor is responsible for the administration of its SPCC Plan.

3.0 GENERAL BEST MANAGEMENT PRACTICES

3.1 TYPICAL FUELS, LUBRICANTS AND HAZARDOUS MATERIALS

The table in Appendix G identifies fuels, lubricants and coolants generally present on pipeline construction spreads and identifies typical total volumes, storage, and transportation methods. Contractors will have appropriate Material Safety Data Sheets (MSDS) on-site as required by the Occupational Safety and Health Administration (OSHA).

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3.2 PREVENTIVE ACTIONS

The following preventive actions and procedures will be accomplished prior to construction.


3.2.1 Storage, Refueling, and Lubrication Areas

Contractors will designate and establish storage, refueling, and lubrication areas prior to construction which will minimize the environmental and safety impacts associated with inadvertent releases of fuel, lubricants, or hazardous substances, as per the following guidelines.

- Refueling and storing potentially hazardous materials will not occur within a 150-foot radius of any private wells or within a 400-foot radius of any municipal or community water supply wells.
- Storage of fuel, lubricants, or hazardous materials within 100 feet of perennial waterbodies, wetland boundaries, or within a municipal watershed will not be conducted.
- No hazardous or potentially hazardous materials, other than essential equipment fuel (e.g., gasoline and diesel fuel) or standard lubricants (e.g., engine oils and grease) will be transported into the right-of-way or construction area without Environmental Manager coordination and approval.
- All petroleum products used by the Contractor necessary for fueling and maintenance of construction equipment shall be stored at a well-maintained and supervised location. Diesel fuel, gasoline, and lubricating oils shall be stored in bermed and lined containment structures or other approved fabricated containment reservoirs.
- All vehicle maintenance waste (oils and lubricants) shall be collected in proper containers within the designated storage, refueling, and lubrication areas. Vehicle washing will be conducted in an area that will ensure that none of the wash water enters any waterbody or wetland. All vehicle wastes will be properly disposed of at facilities permitted to receive hydrocarbon vehicle waste.

3.2.2 Special Refueling Activities

When unique conditions require refueling within 100 feet of the banks of a waterbody, a wetland boundary, or within any municipal watersheds, this activity must be approved in advance by the Environmental Inspector following a review that no reasonable alternatives exist and incorporation of any necessary additional emergency response measures. At a minimum, the review will consider the environmental risks of relocating equipment to an authorized refuel/lubrication area verses risks involved with refuel/lubrication in-place. Additional emergency response measures include availability

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absorbent materials or other secondary spill containment materials for immediate application prior to commencing refueling activities.

3.2.3 Contingency Supplies

Each construction crew shall have on-hand sufficient supplies of absorbent materials, barrier material, and DOT-approved containers to allow for rapid containment and recovery of any potential spill.

3.2.4 Waste Removal

Standing procedures and individual responsibilities regarding excavation, transport, and off-site disposal of any soil material contaminated by a spill will be established prior to construction.

3.3 NOTIFICATIONS


Whenever any spill of a hazardous or potentially hazardous substance occurs, the Environmental Manager will be notified. The Environmental Manager will help direct further response actions in accordance with EPA guidelines and assist throughout the cleanup and disposal of wastes.

3.4 HAZARDOUS MATERIALS SPILL RESPONSE TRAINING

The Contractor shall instruct construction personnel in the operation and maintenance of equipment to prevent an accidental discharge or spill of fuel, oil, and lubricants. Personnel shall also be made aware of the pollution control laws, rules, and regulations applicable to their work.

A spill prevention briefing shall be scheduled and conducted by the Contractor prior to the initiation of construction to assure adequate understanding of this SPCC Plan. The topics to be addressed at the briefing shall include the following:

- SPCC Plan contents;
- Possible equipment failure and malfunction;
- Precautionary measures;
- Standard operating procedures in case of a spill;
- Equipment, materials, and supplies to be maintained by the Contractor and made available for cleanup of a spill.

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3.5 CONTRACTOR’S WASTE DISPOSAL

All wastes generated during construction shall be stored at the Contractor’s Field Warehouse, or other approved collection site, in DOT-approved containers.

3.6 MITIGATION ACTIONS

The following guidelines specify the procedures used to control a release, notify appropriate officials, clean up waste, and document corrective actions.

3.6.1 Control of Spills or Releases

Controlling spills and releases shall be accomplished by stopping or segregating the source of the release, using the required stockpiled materials to contain the spill and, if warranted, stopping operations within the affected areas.

3.6.2 Notifications

The Contractor shall first notify the Environmental Manager and Chief Inspector of any spill. If the spill is of a reportable quantity, the Environmental Manager shall notify the required agencies, and, if the situation warrants, the Field Construction Manager shall notify the appropriate local police, fire department, and/or area residents.


The Contractor shall have designated employees’ on-call 24-hours-per-day for notification of the emergency response companies referenced in Appendix H.

3.6.3 Cleanup and Disposal Actions

The Contractor’s Spill Coordinator will direct cleanup of all releases. Contaminated soils, absorbent materials, and other waste generated by the spill/release will be placed in DOT-approved storage/shipping containers (see Appendix E). The containers will be labeled indicating the contents and placed in a designated accumulation point for disposal. Depending on the type of waste generated, the containers shall be transported and disposed of in accordance with appropriate EPA disposal criteria by permitted transporters and disposers.

In the event that a fuel spill occurs within a controlled containment dike, in lieu of a pump/valve drainage system, the Contractor shall immediately engage a certified vacuum cleanup service in the vicinity.

Arrangements shall be made for spill cleanup vacuum services within various vicinities. These companies will be on-call 24-hours-per-day to provide emergency cleanup services, as required by the Contractor.

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3.6.4 Records

The Contractor shall maintain written records of all actions taken during the course of a spill event.

4.0 SPILL PROCEDURE

4.1 REPORTABLE QUANTITY SPILLS

Unless otherwise directed, the reporting, disposal, and pre-cleanup sampling requirements in this section apply to all spills of reportable quantities (Appendix C).

4.2 IMMEDIATE SPILL RESPONSE ACTIONS

The Contractor shall implement this SPCC Plan using the following steps in response to a spill of hazardous materials:


Immediate Safeguards

- Evacuate the area of personnel, if warranted.
- Stop operation of affected equipment/area, if warranted.
- Turn off utilities to the area, if necessary.
- Cordon the area to prevent entry of unnecessary personnel or equipment. Establish a single point of ingress and egress to control access to the spill area.
- Take whatever steps possible to eliminate the source of the leak or spill (e.g., shut off valves, upright containers, stop pumps).
- Accumulate as much information as possible as to the nature and size of the spill. Use the Construction Spill Report Form (see Appendix A) for the type of information required.

Spill Event Log Establishment

Documentation of all spill-related activities will include the following information in the log:

- Time and date of initial notification of spill and approximate time the spill occurred.
- Start and completion time of all key activities.
- A detailed description of all activities undertaken and identification of personnel accomplishing these activities.

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- Note time of all correspondence, personnel involved with the correspondence, and nature of the correspondence.
- The log shall be maintained until initial actions to clean up the spill are complete (approximately 24 hours, unless conditions extend the response to the emergency).

Notifications

All notifications shall be accomplished at the direction of the Spill Coordinator or Construction Director.

- Notify the Environmental Manager of any spill and provide the necessary information by using the Construction Spill Report Form (Appendix A).
- Make other Contractor and Company and agency notifications per the SPCC Plan, or as instructed by the Environmental Manager and Section 4.3, Reporting Requirements, of this Plan.
- Notify local police, fire department or hazardous material units, if assistance is necessary.
- Notify local residents, if necessary.


Spill Control

For spills on land or pavement:

- Plug all storm drains the spill may gain access to.
- Construct terrace dam or ditch to stop the spill's flow.
- Scatter hay, straw, sand, absorbent pads, or other similar materials to absorb the spill.
- If free-standing fluid is present, actions can be taken to skim fluids and place into DOT-approved containers.

For spills on water:

- Ensure that all possible efforts are made to limit the migration of the surface spill until properly equipped cleanup teams can arrive.
- Create a back current to limit out-flow of material.
- Use absorbent floats and/or booms, if available.

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- Create shoreline earth berms to prevent spill from reaching surface waters. Use skimmers, pumps or available absorbent materials to remove spill from water, should spill breach berms.

Area Spill Cleanup

- Follow site cleanup and decontamination requirements which are provided in this SPCC Plan.
- Remove cleanup debris from spill area. Basic guidance is provided in Section 4.4, Disposal of Cleanup Debris and Materials.

Spill Materials Disposal

All spill material shall be disposed of in accordance with EPA Regulations. General guidance is provided in Section 4.6, Cleanup Requirements.

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4.3 REPORTING REQUIREMENTS

The following reporting requirements by the Contractor are required in addition to applicable reporting requirements under the Clean Water Act (CWA), Toxic Substances Control Act (TSCA), or the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and other documents which establish the SPCC reporting requirements.

Notify the Environmental Manager and Chief Inspector in the event of any leaks or spills. Use the Construction Spill Report Form (see Appendix A) for providing necessary information. The Chief Inspector will provide guidance based on the potential impact of the spill.


4.4 DISPOSAL OF CLEANUP DEBRIS AND MATERIALS

All contaminated soils, solvents, rags, and other materials resulting from the cleanup actions will be properly stored, labeled, and disposed of in accordance with the appropriate EPA regulations. Some general guidance follows:

- Soils and/or other contaminated materials shall be placed in DOT-approved sealed containers.
- Containers shall be labeled with required waste label(s), dated, and inventoried.
- Containers may be stored at the construction site in the identified staging areas for up to 90 days.
- All containers shall be disposed of in accordance with EPA Regulations using permitted transporters and permitted disposal facilities.
- All hazardous waste containers shall be properly manifested prior to departure from the construction area. The Contractor and ETC will maintain all manifest records with the Project file for at least three years after the containers were shipped for disposal.

4.5 DETERMINATION OF SPILL BOUNDARIES IN THE ABSENCE OF VISIBLE TRACES

For spills where there are insufficient visible traces, yet there is evidence of a leak or spill, the boundaries of the spill shall be determined using a statistically based sampling scheme. The Environmental Manager will provide sampling assistance.

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4.6 CLEANUP REQUIREMENTS


4.6.1 General Requirements:

- All soil within the spill area (i.e., visible traces of soil and a buffer of one lateral foot around the visible traces) must be excavated.
- All excavation material shall be disposed of as mentioned in Section 4.4, Disposal of Cleanup Debris and Materials, and the appropriate EPA Regulations.
- All cleanup soil and wastes shall be collected in DOT-approved containers. See Appendix E for a listing of approved containers.
- Appendix D contains guidance on how to manage the area used to temporarily store waste containers.
- Appendix F contains guidance on inspection procedures for stored waste containers required by EPA Regulations.
- The ground shall be restored to its original configuration by back-filling with clean soil.
- Cleanup requirements of a spill area shall be completed within 48 hours after notification or knowledge of the spill.

4.6.2 Effect of Emergency or Adverse Weather

Completion of cleanup may be delayed beyond 48 hours in case of circumstances including, but not limited to:

- Civil emergency;
- Adverse weather conditions;
- Lack of access to the site;
- Emergency operating conditions.
- The occurrence of a spill on a weekend or after-hours. Overtime costs are not acceptable reasons to delay response.
- Completion of cleanup may be delayed only for the duration of the adverse conditions. If the adverse weather conditions, or time lapse due to other emergencies, have left insufficient visible traces, a statistically based sampling scheme to determine the spill boundaries will be developed and implemented.

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4.7 RECORDS

All records that document spill events and corrective actions taken will be maintained in the project files for three years from the date the corrective actions were completed. Documentation and certification of area decontamination shall be conducted upon completion of and during all cleanup operations. The records and certifications shall be completed, as follows:

- Identification of the source of the spill (e.g., type of equipment or container).
- Estimated or actual date and time of the spill occurrence.
- The date and time cleanup was completed or terminated (if cleanup was delayed by emergency or adverse weather, the nature and duration of the delay).
- A brief description of the spill location.
- Pre-cleanup sampling data used to establish the spill boundaries if required due to insufficient visible traces, and a brief description of the sampling methodology used to establish the spill boundaries.
- A brief description of the solid surfaces cleaned and of the wash/rinse method used.
- Approximate depth of soil excavation and the amount of soil removed.
- A certification statement signed by the Construction Director, Spill Coordinator, and the Environmental Manager stating the cleanup requirements have been met and the information contained in the record is true to the best of his/her knowledge.
- The estimated cost of pre- or post-cleanup and sampling by man-hours, dollars, or both.

4.8 RESPONSIBILITY FOR PROCEDURE

Address any questions to the Environmental Manager (name and address to be announced).

**APPENDIX A
CONSTRUCTION SPILL REPORT FORM**

Date of Spill: _____ Date of Spill Discovery: _____
Time of Spill: _____ Time of Spill Discovery: _____
Location Name: _____ Region: _____
Name and Title of Discoverer: _____
Type of material spilled and manufacturer's name: _____
Legal Description of spill location: _____
Directions from nearest community: _____
Estimated volume of spill: _____ Estimated Material Recovered: _____
Weather Conditions: _____
Topography and surface conditions of spill site: _____
Spill medium (pavement, sandy soil, water, etc.): _____
Proximity of spill to surface waters: _____
Did the spill reach a waterbody? _____ Yes _____ No
If so, was a sheen present? _____ Yes _____ No
Describe the causes and circumstances resulting in the spill: _____

Describe the extent of observed contamination, both horizontal and vertical (i.e., spill-stained soil in a 5-foot radius to a depth of 1 inch): _____

Describe immediate spill control and/or cleanup methods used and implementation schedule: _____

Current status of cleanup actions: _____

Name/Company/Address/Phone Number for the following:

Construction Superintendent: _____

Spill Coordinator: _____

Environmental Manager: _____

Person Who Reported the Spill: _____

Environmental Inspector: _____

Form completed by: _____ Date: _____

Spill Coordinator must complete this for any spill, regardless of size, and submit the form to the Environmental Manager and Chief Environmental Inspector within 24 hours of the occurrence.

APPENDIX B REPORTABLE QUANTITIES

PURPOSE:

This procedure identifies reportable quantities for releases of oil or hazardous substances in accordance with the CERCLA of 1980, the CWA, the Oil Pollution Act of 1990 (OPA 90) and the TSCA.

RESPONSIBILITY FOR ADMINISTRATION:

Contractor's Spill Coordinator is responsible for administration of this procedure.

GENERAL:

- I. Reportable quantity is the quantity of a release which requires notification of an agency.
- II. Any amount of oil spill into navigable waters is reportable. Oil spills onto land may be required to be reported, depending upon quantity spilled and state regulations. Refer to Appendix C.
- III. Appendix C lists Reportable Quantities (RQs) specified by the EPA.
- IV. RQs for Toxic Hazardous Wastes are based on the toxic contaminant. The RQ means the quantity of the waste, not the quantity of the toxic contaminant. If toxic waste has two or more contaminants, the RQ is based on the lowest RQ for those contaminants.

PROCEDURES:

- I. If oil is discharged into or upon the navigable waters of the United States, or adjoining shorelines:
 - A. Report the spill to the National Response Center (800) 424-8802.
 - B. Submit a written report within 60 days to the EPA Regional Administrator and the state agency, if the project has discharged quantities of oil into or upon the navigable waters of the United States or adjoining shorelines, which:
 1. Is more than 1,000 gallons of oil in a single spill event; or
 2. Is in harmful quantities as defined by 40 CFR Part 110, Oil Pollution Prevention regulations, in two spill events occurring within a twelve month period. Harmful quantity includes a film or sheen or discoloration of the surface of the water of adjoining shorelines or a sludge or emulsion deposited beneath the surface of the water or upon adjoining shorelines.
 - C. The report to the EPA Regional Administrator and the state agency will include:
 1. Name of facility;
 2. Name(s) of the owner or operator of the facility;
 3. Location of the facility;
 4. Date and year of initial facility operation;
 5. Maximum storage or handling capacity of the facility and normal daily throughput;
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6. Description of facility, including maps, flow diagrams and topographical maps;
7. A complete copy of the SPCC Plan with amendments;
8. The cause of the spill, including a failure analysis of the system or subsystem in which the failure occurred;
9. The corrective actions and/or countermeasures taken, including description of equipment repairs and replacements;
10. Additional preventive measures taken or contemplated to minimize the possibility of recurrence; and,
11. Any additional information the EPA Regional Administrator may require pertinent to the SPCC Plan or spill event.

II. If a hazardous waste or hazardous substance has been released into the environment in quantities equal to or in excess of reportable quantities listed in 40 CFR 302, the NRC must be notified.

- A. Contact the required agencies with the pertinent spill information.
- B. Provide verbal notification of the following information:
 1. Name and telephone number of reporter;
 2. Name and address of facility;
 3. Type of substance discharged;
 4. Quantity of substance discharged;
 5. Location of discharge;
 6. Actions the person reporting the discharge proposes to take to contain, cleanup and remove the substances, if any; and,
 7. Any other information concerning the discharge which may be requested by the Agency at the time of notification.

III.

- A. If a hazardous waste, hazardous substance or extremely hazardous substance has been released in quantities equal to or in excess of reportable quantities the State Emergency Planning Commission and Local Emergency Planning Committee must be notified. Contact the required agencies with the pertinent spill information as soon as possible.
 - B. Submit a written report on the incident to the appropriate state and local agency. The report will include the following:
 1. Name, address and telephone number of the owner or operator;
 2. Name, address and telephone number of the facility;
 3. Date, time and type of incident;
 4. Name and quantity of material(s) involved;
 5. The extent of injuries, if any;
 6. An assessment of actual or potential hazards to human health or the environment, where this is applicable;
 7. Assessment of the scope and magnitude of the spill;
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8. Description of the immediate actions that have been taken and the estimated quantity and disposition of recovered material that resulted from the incident; and,
9. Provide an implementation schedule for undertaking suggested measures to eliminate the spill.

Spill incident reports will be maintained in the project files for a minimum period of three years.

APPENDIX C STATE REQUIREMENTS

These guidelines are intended to help the Environmental Manager determine what is a reportable spill. In addition to the guidelines listed below, any substantial natural gas release which could cause an agency to initiate an unneeded emergency response should be considered reportable. The Environmental Manager and Spill Coordinator shall maintain a copy of federal reportable quantities (RQs) established under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). A complete list of CERCLA-regulated hazardous substances and associated RQs are listed in Table 302.4 in 40 CFR § 302.4. This list can also be found online at: <http://www.epa.gov/ceppo/pubs/title3.pdf>.

State Specific Reporting Requirements

The state-specific minimum quantities for mandatory reporting of spills have not been established for the State of North Dakota. All spills which may potentially impact waters of the state, either surface water or groundwater, must be reported. This includes all substances, not just "hazardous materials."

APPENDIX D HANDLING CONTAINERS AND DRUMS

PURPOSE:

This procedure provides general requirements for the design of areas used to store containers and drums, in accordance with EPA regulations 40 CFR Part 112 and 40 CFR Part 265.170.

RESPONSIBILITY FOR ADMINISTRATION:

The Contractor's Spill Coordinator will be responsible for this procedure.

GENERAL:

- I. This procedure covers container and drum storage areas storing oils and petroleum distillates and non-permitted Hazardous Waste container and drum storage areas.
- II. It is not necessary to permit Hazardous Waste container and storage areas if the waste is stored for less than 90 days. Secondary containment is not required for non-permitted Hazardous Waste container and drum storage areas.

PROCEDURE:

- I. All containers and drums must be stored to avoid contact with the ground and standing water and protected to prevent rupture or leakage and to facilitate inspection.
 - II. The areas with containers and drums in which oil and petroleum distillate are stored and have the potential to be spilled off site must be designed to contain spills and releases. Appropriate secondary containment may include dikes, berms or retaining walls sufficiently impermeable (10^{-5} centimeters per second) to contain spill oils.
 - III. The following applies to hazardous waste containers and drums:
 - A. Containers and drums holding ignitable or reactive Hazardous Waste must be stored at least 50 feet from the property line of boundary. Follow manufacturers' instructions regarding appropriate storage of product containers and drums.
 - B. Hazardous Waste containers and drums must be separated and protected from incompatible materials by means of dike, berm, retaining wall or other approved means. Incompatible materials are wastes which, when mixed, can produce effects which are harmful to human health and the environment, such as (1) heat and pressure, (2) fire or explosion, (3) violent reaction, (4) toxic fumes or, (5) flammable fumes.
 - C. Hazardous Waste containers and drums must be inspected weekly. That inspection shall be documented, as per requirements listed in Appendix F.
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- IV. The Contractor shall comply with all rules for Hazardous Waste Generators for satellite accumulation under 40 CFR 262.24(c)(1)(ii):
 - A. Mark each container with the words "Hazardous Waste."
 - B. Containers must be in good condition and kept closed except when adding or emptying waste. In addition, containers must not contain waste that is incompatible with the containers.
- V. Conditionally Exempt Small Quantity Generators and Small Quantity Generators of Hazardous Waste must comply with the following:
 - A. Meet all conditions outlined in Procedure Section II.
 - B. Mark each drum or container with the words "Hazardous Waste."
 - C. Label each drum or container with the date it is first used and the date it is last used.

RECORDS:

Storage area inspection records must be kept with the project files for a minimum period of three (3) years.

RESPONSIBILITY FOR PROCEDURE:

Address any questions to the Environmental Manager (Name and address to be announced.)

APPENDIX E DOT-APPROVED CONTAINERS

PURPOSE:

This procedure provides a listing of containers which have been approved by the EPA for storage of contaminated materials or wastes. These drums may be ordered from drum suppliers by specification number:

- I. Specification 5 - steel barrel or drum with removable head:
 - A. Body seams welded;
 - B. Chime (reinforced rim) reinforced;
 - C. Heads closed by 12 gauge bolted ring with drop forged lugs;
 - D. Marked "DOT-5."

 - II. Specification 5B - steel barrel or drum with removable head:
 - A. Body seams welded;
 - B. Chime (reinforced rim) reinforced;
 - C. Heads closed by 12 gauge bolted ring with drop forged lugs;
 - D. Marked "DOT-5B."

 - III. Specification 6D Overpack; cylindrical steel overpack, straight sided, for inside plastic container. Specification 6D Overpack must be used with the specification 2S or 2SL plastic container.

 - IV. Specification 2S - polyethylene container:
 - A. No removable heads;
 - B. Constructed with new polyethylene resin;
 - C. Marked "DOT-2S;"
 - D. Must fit snugly in overpack container (Spec. 6D).

 - V. Specification 2SL - molded or thermoformed polyethylene container:
 - A. No removable heads;
 - B. Constructed with new polyethylene resin;
 - C. Marked "DOT-2SL;"
 - D. Must fit snugly in overpack container (Spec. 6D).

 - VI. Specification 17C - single trip container, steel drum:
 - A. Removable heads are authorized;
 - B. Crowned head;
 - C. Heads closed by 12 gauge bolted ring with drop forged lugs;
 - D. Marked "DOT-17C."
-

APPENDIX F INSPECTION OF WASTE DRUMS AND CONTAINERS

PURPOSE:

This procedure outlines inspection requirements for waste drums and containers as required by Federal Regulations 40 CFR 262 - 265 and 40 CFR 761.

RESPONSIBILITY:

The Contractor's Spill Coordinator is responsible for implementation of this procedure.

GENERAL:

- I. Drums and containers used to store hazardous substances and wastes shall be inspected for leaks, malfunctions, deterioration, operator errors and discharges which may lead to a release into the environment or a threat to human health.
- II. If problems are discovered during the inspection, remedial action shall be taken immediately. The action taken will be noted on the inspection report form.

PROCEDURE:

- I. Each waste drum and container shall be inspected and records maintained on a Waste Container Inspection Form. Inspection records shall include the date and time of the inspection, the name of the inspector, observations and the date and nature of any problems, repairs and remedial action.
 - A. Waste drum and container storage areas shall be inspected weekly for the following:
 1. Leaking containers, deterioration of containers and deterioration of the spill containment system.
 2. Drums and containers shall be properly labeled and dated.
 3. Drums and containers shall be stored on pallets or drum racks.
 - B. If a drum or container is leaking, the incident shall be recorded on the inspection form and immediately cleaned up according to the SPCC Plan.

RECORDS:

- I. Inspection records shall be maintained in the project files for three (3) years from the date of inspection.
- II. A report of the remedial action taken for leaks shall be prepared and kept with either the original inspection forms, inspection log or in the records of the project. These records shall be maintained for three (3) years with the project files.

RESPONSIBILITY FOR PROCEDURE:

Address any questions to the Company Environmental Manager (Name and address to be announced.)

**APPENDIX G
TYPICAL PETROLEUM STORAGE AND HANDLING VOLUMES ON CONSTRUCTION
SPREAD**

| | Fluids | Typical Amounts | Storage | Typical Transport Mode |
|-----------|---|---------------------------------|---|--|
| Fuels | Diesel | 6,000-12,000 Gallons | 1-3 Tanks or Tankers stored at Contractor locations 5 gallon cans, 100 gallon storage in pickups, etc. | 1-3 Fuel Trucks, 1-3 "Fuel Skids" |
| | Military Aviation Kerosene ¹ | 6,000-12,000 Gallons | | |
| | Kerosene ¹ | 6,000-12,000 Gallons | | |
| | Gasoline | 5,000 Gallons | | |
| Lubricant | Engine Oil | < 500 Gallons | Bulk Storage or Retail Packaging at Contractor Yard Warehouse | 1-3 "Grease" Trucks |
| | Transmission/ Drive Train Oil | < 500 Gallons | | |
| | Hydraulic Oil | < 500 Gallons | | |
| | Gear Oil | < 500 Gallons | | |
| | Lubricating Grease | 20-30 cases of 24 cans per case | | |
| Coolants | Ethylene Glycol | 100 Gallons | | |
| | Propylene Glycol | 100 Gallons | | |

¹ Used straight or as additives only in extremely cold weather.

APPENDIX H EMERGENCY RESPONSE CONTRACTORS; DISPOSAL AND TREATMENT FACILITIES

The Contractor must dispose of all wastes according to applicable state and local requirements. A listing of potential Emergency Spill Response Contractors and waste disposal facilities is provided below. This list was developed from state-wide databases. This list represents firms operating at the time the data base was produced. These firms are not necessarily endorsed by COMPANY. The Contractor is responsible for verifying if a contractor or facility is currently operating under appropriate permits or licenses. Selection of an Emergency Response Contractor or disposal facility is subject to approval. The Contractor is responsible for ensuring wastes are disposed of properly.

Spill Response Contractors located along the proposed route will be determined during project planning.

APPENDIX C
INSPECTION FORMS AND INSTRUCTIONS

**PROJECT
STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT**

Signature of Inspector: _____

Printed Name of Inspector: _____

Title of Inspector: _____

Qualifications of Inspector: _____

Date and time: _____

Current Weather Information: _____

Weather Information Since Last Inspection:

Beginning Date/Time of Last

Storm Event: _____

Duration of Last Storm Event: _____

Amount of Rainfall: _____ Inches

Discharges Since Last

Inspection/Storm Event: _____

NOTE: Inspection documents are to be maintained for a minimum of 3 years.

**PROJECT
STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT**

Earth Dikes/Berms

Is the dike stabilized? _____

Is there evidence of washout or over-topping? _____

If water is present in the drainage ports, does it:

- Have a sheen on it? _____
- Have an acceptable TDS? _____
- Show excessive turbidity? _____

Maintenance required for Earthen Dike: _____

To be performed by: _____ On or before: _____

NOTE: Modifications to control measures **must** be made no more than 7 days after the inspection.

**PROJECT
STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT**

Roads and Locations Where Vehicles Enter or Exit the Construction Site

Are sediment traps or barriers along road construction zones preventing runoff into adjacent wetlands, lakes, etc.? _____

At locations where construction equipment exits onto paved roads, are the existing best management practices successfully minimizing off site tracking of sediments? _____

Maintenance Required: _____

To be performed by: _____ On or before: _____

NOTE: Modifications to control measures **must** be made no more than 7 days after the inspection.

**PROJECT
STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT**

Straw Bale and Filter Fence Barriers

Do the barriers have tears or holes in them? _____

Are there any missing barriers? _____

Are the barriers properly aligned? _____

Where sediment has reached one-third the height of the barrier, has it been removed? _____

Have straw bales with excessive sediment saturation been replaced? _____

Maintenance required for barriers: _____

To be performed by: _____ On or before: _____

SWPPP Updates:

If any deficiencies in pollution control structures or procedures were identified above, have those deficiencies been corrected and the Storm Water Management Plan modified, if appropriate? Explain.

NOTE: Modifications to control measures **must** be made no more than 7 days after the inspection.

**PROJECT
STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT**

General

Have there been any uncontrolled releases of mud or muddy water or measurable quantities of sediment found off site? _____ Yes _____ No

If Yes, describe measures taken to clean up fugitive sediment: _____

If Yes, describe measures taken to prevent a future occurrence: _____

**PROJECT
STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT**

| Location | Diversion Structure | Sediment Trap | Date Excavated | Date Filled | Date Dressed | Signs of Erosion | Stabilized ? | Ground Covered? | Date of Inspection |
|-----------------|----------------------------|----------------------|-----------------------|--------------------|---------------------|-------------------------|---------------------|------------------------|---------------------------|
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NOTE: If signs of erosion become apparent, stabilize by backfilling and leveling and use of mulch, sod, seeding, or other means of preventing further erosion.

Date: _____

Inspector's Name (Print and Initial) _____

**PROJECT
STORM WATER POLLUTION PREVENTION PLAN INSPECTION
AND MAINTENANCE REPORT**

Maintenance required for:

To be performed by: _____ On or before: _____

NOTE: Modifications to control measures **must** be made no more than 7 days after the inspection.

NOTE: Inspection documents are to be retained for a minimum of 3 years.

NOTE: Check flowline trenches for the following:

- Settlement below natural grade
- Washouts of spoil along excavated trenches
- Muddy/contaminated rainwater
- Placement of spoil upslope of trench

C.4

HDD Contingency Plan



HORIZONTAL DIRECTIONAL DRILL CONTINGENCY PLAN

Dakota Access, LLC
Dakota Access Pipeline Project (DAPL)

1.0 INTRODUCTION

Portions of the proposed DAPL Project will be installed using horizontal directional drilling (HDD) technology. This baseline directional drill contingency plan provides specific procedures and steps to detect and respond to any inadvertent release of drilling fluids for the above-described canal crossings. A site specific HDD contingency plan may be provided by the contractor selected to perform the HDD, that plan would meet or exceed the standards established in this document.

Elements of this plan include:

- Preparation;
- Monitoring Procedures;
- Notification Procedures;
- Corrective Action and Cleanup; and
- Abandonment.

2.0 PREPARATION

An Environmental Inspector will be employed throughout construction and restoration of this Project. All work will be performed in compliance with environmental permits, laws, and regulations. The Pipeline Construction Contractor – supervisory personnel will be provided environmental training prior to commencing work, and the Contractors will be provided a Project specific Environmental Clearance Package including copies of all environmental permits secured for the Project in advance of commencing activities.

Best management practices employed during this Project include the use of erosion control devices and turbidity control measures to protect sensitive resources (e.g. wetlands and waterbodies). Furthermore, containment equipment including earth-moving equipment, portable pumps, hand tools, sand, hay bales, silt fencing, turbidity screens, and/or lumber will be readily available at the project site in the event of a frac-out and vacuum truck will be employed as necessary.

3.0 MONITORING PROCEDURES

The Drilling Contractor personnel will monitor operations during drilling activities. Monitoring will include:

- Inspection along the drill path, including surface waters along the path for evidence of a release.
- Continuous examination of drilling fluid pressures and return flows.
- The Drilling Contractor will provide information regarding drilling conditions to the company representative and the Pipeline Construction Contractor during the course of drilling activities.
- Monitoring will be documented by the Pipeline Construction Contractor.

4.0 NOTIFICATION PROCEDURES

If an inadvertent release is discovered, steps will be taken by Drilling Contractor to contain the release as described below in the Corrective Action and Cleanup Section below (Section 5.0).

If monitoring indicates an in-stream or wetland release has occurred, the Drilling Contractor will immediately notify DAPL's construction management and environmental management personnel. The Drilling Contractor's crew will take immediate corrective action to contain the release and to prevent or minimize impacts. DAPL will notify the U.S. Army Corps of Engineers (USACE), and County Environmental Department as soon as possible (within 24 hours), and provide details of the nature of the release and corrective actions being taken, completed, and/or planned. DAPL will work with the respective agencies regarding additional measures that may be warranted. If it is determined that the release cannot be remedied without causing additional negative environmental impacts, DAPL will request that drilling operations continue.

5.0 CORRECTIVE ACTION AND CLEANUP

By monitoring drilling operations continuously, DAPL intends to correct problems before they occur. However, if a release does occur, the following measures will be implemented to stop or minimize the release and to clean it up:

- The Drilling Contractor will decide what modifications to make to the drilling technique or composition of drilling fluid (i.e., thickening of fluid by increasing bentonite content) to reduce or stop minor losses of drilling fluid.
- If a minor bore path void is encountered during drilling, making a slight change in the direction of the bore path may avoid loss of circulation.
- If the borehead becomes lodged resulting in loss of drilling pressure, the borehole may be sized by moving the borehead back and forth to dislodge the stuck materials.
- If public health and safety are threatened, drilling fluid circulation pumps will be turned off. This measure will be taken as a last resort because of the potential for drill-hole collapse resulting from loss of down-hole pressure.

Land Release:

- If a land release is detected, the drilling crew will take immediate corrective action to contain the release and to prevent or minimize migration off site.
- Steps will be taken (such as installing berms, silt fence and/or hay bales) to prevent silt-laden water from flowing into protected resources.
- The contractor will construct pits and/or berms around the frac-out point to contain inadvertent releases onto the ground.
- Vacuum trucks may be called in as necessary to assist in the removal of released material.
- If the amount of an on-land release does not allow practical collection, the affected area will be diluted with fresh water and allowed to dry.
- If hand tools cannot contain a small on-land release, small collection sumps (less than 5 cubic yards) may be constructed to pump the release material into the mud-processing system.

- Once the release is contained and materials are removed, it will be disposed of properly.

Wetland or Waterbody Release:

- If a release occurs within a waterbody, USACE will be contacted as soon as possible (within 24 hours) by DAPL. DAPL will inform USACE about any threat to public health and safety and explain whether or not the release can be corrected without incurring additional environment impact. If necessary, drilling operations will be reduced or suspended to assess the extent of the release and to implement corrective actions.
 - Temporary dams (e.g. sand bags) may be installed to isolate the fluid from a frac-within a protected feature.
 - Vacuum trucks will be called in as necessary to assist in timely, effective removal of released drilling mud.
 - Once the release is contained and materials are removed, it will be properly disposed of.

6.0 ABANDONMENT

If corrective actions do not prevent or control releases from occurring into a protected feature, DAPL may opt to re-drill the hole along a different alignment within their easement rights or suspend the installation altogether. Other issues may require abandoning the hole, such as refusal or misalignment. In any case, the following procedures will be implemented to abandon the drill hole:

- The method for sealing the abandoned drill hole is to pump thickened drilling fluid into the hole as the drill assembly is extracted and using cement grout to make a cap.
- Closer to the surface (within approximately 10 feet of the surface), a soil cap will be installed by filling with soil extracted during construction of the pit and berms.
- The borehole entry location will be graded and seeded by the contractor to its original grade and condition after the drill hole has been abandoned.

C.5
Blasting Plan

Blast Plan
Dakota Access Pipeline
North & South Dakota, Iowa, Illinois

A. Scope of Blasting Project

Blasting will take place along the Dakota Access Pipeline right-of-way. The Blasting Contractor will blast only in the areas where the rock cannot be economically excavated by conventional means. It is anticipated that this may occur anywhere along the right-of-way, site-specific locations will be determined as project progresses. As much as possible due to safety reasons, drilling and blasting will occur through the natural dirt overburden. Blasting activities will take place during daylight hours Monday through Saturday.

B. Types of Blasting

Primary type of blasting will be for ditch excavation. Blasting may also be required during the right-of-way grading operation.

If any streams and wetland areas require blasting to perform the ditch excavation, the streams and wetland areas will be tested for rock and shot by the mainline blasting crew. Once blasted, the creeks will be fixed back to original condition and all ECD's replaced until the time of the tie ins.

C. Location of Shots and Proximity to Existing Facilities

No blasting will occur within 15 feet of existing loaded pipelines or within 10 feet of other structures that may be of concern. All blasting located along adjacent power line rights-of-way shall be conducted in a manner that will not cause damage to the power company property and facilities. The blast be drilled through natural dirt overburden or covered by blasting mats and/or other material as needed to protect nearby existing facilities, structures, highways, railroads or significant natural resources from thrown rock fragments.

D. Method to be Used to Minimize Hole-to-Hole Propagation

Hole-to-hole propagation problems are not anticipated with the proposed product and pattern for the following reasons:

1. Only cartridge explosives will be used.
2. The amount and type of explosives anticipated does not lend to the likelihood of propagation issues.

E. Types of Explosives / Initiation System to be Used

1. Dyno Nobel Unimax[®]: An extra gelatin dynamite with a specific gravity of 1.51 g/cc, a detonation rate of 17,400 f/s (unconfined) and a calculated energy of 1,055 c/g.
2. D-GEL 1000 is a desensitized, nitroglycerin-based dynamite formulated to reduce sensitivity to sympathetic detonation (hole-to-hole propagation) with

Blast Plan

Dakota Access Pipeline

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superior water resistance. The product has a specific gravity of 1.36 g/cc and a detonation rate of 16,900 f/s (unconfined) and a calculated energy of 1045 c/g.

3. DYNOMAX PRO is desensitized extra gelatin dynamite designed to satisfy the majority of explosive application requirements consistently delivering delivering high detonation velocity and excellent water resistance while reducing cartridge to cartridge gap sensitivity and hole-to-hole propagation problems. The product has a specific gravity of 1.45g/cc and a detonation rate of 19,700 f/s (unconfined) and a calculated energy of 1055 c/g.
4. Dyno Nobel TX: A cap sensitive high explosive with a specific gravity of 1.17 g/cc and a detonation rate of 16,400 f/s (unconfined) and a calculated energy of 1170 c/g.
5. Dyno Nobel Blastex TX: A cast booster sensitive, water resistant, packaged emulsion explosive specifically formulated to provide increased resistance to hydrostatic and/or dynamic transitory shock pressures which can result when used in wet and/or water saturated geologies. The product has a specific gravity of 1.26g/cc and a detonation rate of 15,400 f/s (unconfined) and a calculated energy of 808 c/g.
6. Orica Senatel Pulsar : The premier, packaged, detonator-sensitive emulsion explosive for pipeline, trenching and site preparation projects is Senatel™Pulsar™ energized emulsion. This product is packaged in a semi-rigid, film cartridge for loading into ragged holes in surface rock. Senatel™Pulsar™ will not propagate yet it has energetic additives to give added breaking power and heave with excellent pre-compression resistance. The product has a specific gravity of 1.23g/cc and a detonation rate of 14,740 f/s (unconfined) and a calculated energy of 950 c/g.
7. Dyno Nobel NONEL® 25 Millisecond Delay Connectors or Dyno Nobel NONEL EZ Det® (nonelectric) 25/350 millisecond delay.
8. A Dyno Nobel NONEL nonelectric shock tube system detonator will initiate all shots. This NONEL will be attached at one point only for initiation of the entire shot and will not be used for down hole priming.

F. Drill and Blast Pattern

The drilling program will be based on 2 rows of 3 inch diameter holes drilled with a grid spacing of approximately 4 feet wide by 5-7 feet along the ditch line. If rock breakage is not optimum a third row of holes will be added to the blast pattern (dice "5" pattern). The drill pattern will be established using a powder factor between 2.0 and 4.0 pounds per cubic yard to achieve the desired explosive energy ratio needed to break the rock and pull the ditch. This shot pattern may be adjusted on a site-specific basis to compensate for different geology, nearby structures, utilities or other sensitive areas.

Blast Plan

Dakota Access Pipeline

North & South Dakota, Iowa, Illinois

G. Charge Weight and Delays

Delays will be used accordingly to control the vibration as well as limiting the transmission of energy below the damaging levels at any existing structure. The delay pattern will be created to provide the energy relief immediately down the ditch in preference to a horizontal direction. The main type of delays will be NONEL[®] EZ-Det 25/350 or 25/500 which are color-coded for easy identification of delay length. The amount of dynamite used in each hole will be limited to the manufacturer's recommendations and specifications. The Blasting Contractor will also use multiple caps per hole (decking) as needed to meet maximum charge per delay requirements as necessary.

H. Flyrock Control Plan

All shots will be carefully designed by the Licensed Blaster to control flyrock. All hole loading activity will be supervised by the Licensed Blaster. The Licensed Blaster will communicate with the drillers to obtain geological information for each shot.

A good quality, non-bridging stemming material that completely fills any voids in the drill hole will also be used to reduce the amount of flyrock. A minus 3/8" crushed rock is typically used for this purpose. This stemming size has been a standard for U.S. Corps of Engineers for decades.

I. Selection of Blasting Products and Methods

These blasting products were chosen because of many years of dependable use and positive results on pipeline projects throughout the world which are demonstrated by the:

- quality, safety and reliability of the product
- support offered by the manufacturer
- availability
- price

A nonelectric detonator will initiate all shots. A completely nonelectric system (including initiation) for several important reasons:

1. Due to the proximity of the high voltage power lines, stray current may be an issue that could result in the premature firing of an electric detonator.
2. The numerous radio equipped trucks belonging to all personnel (surveyors, inspectors and other subcontractors) on the project mandate that all shots be totally nonelectric to eliminate accidental detonation of electric caps. Furthermore, there may be other commercial and/or non-commercial radio users in the area not associated with the project (logging operations, quarry sites, etc.) who could compromise the safety of the blasting operations.

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Dakota Access Pipeline

North & South Dakota, Iowa, Illinois

3. The nonelectric detonator shock tube system works instantaneously (like electric blasting caps). This allows for precise and reliable initiation of shots in congested areas, adjacent to highways or in other locations where blast initiation control is an issue.

J. Monitoring, Reporting and Controlling Ground Cracking and Displacement

It is not expected that this type of rock will fracture in such a way as to cause any kind of ground displacement. Following each blast, the area will be examined for signs of ground cracking. Any indication of overbreak (cracks greater than half the distance to the existing pipeline) will be brought to the attention of the Company Inspector and noted on the blast report. The shot pattern and/or loading will be adjusted to minimize or eliminate overbreak.

K. Explosives Storage and Transportation Procedures

Explosives storage and transportation will follow the guidelines and regulations of all federal, state and local agencies.

L. Peak Particle Velocity Monitoring and Control

Each blast will be monitored by a licensed blaster or other person experienced in monitoring blasts using a seismograph. The seismograph will be placed at the “point of interest”. In most cases, this will be next to the foundation of the closest building, power line foundation, utility or well. In all cases, both the sensor and seismograph will be protected from flyrock.

This recorder gives a direct peak particle velocity (PPV) reading that is indicated on a tape as well as decibel reading to capture sound levels.

The industry standard for many years has been 12 inches per second maximum PPV on any underground structures. **DAPL** expects the PPV's to be kept under 6 inches per second or lower on any underground structures & 2 inches per second or lower on wells and above ground inhabited structures.

After each blast, a blast report with a print out of the seismograph readings will be compiled and a copy presented to the Company inspector for Company records.

M. Fire Prevention

Following the required waiting period after each shot, the blast area will be inspected for any indication of fire or fire hazard. Particular attention will be paid to the vegetated areas outside of the R.O.W. Normally, the explosives vaporize at the instant of detonation and there is no fiber or other material left to smolder or be a source of concern.

1. The blasting operation will generally take place after the grading operation has graded the right-of-way to bare mineral soil. The blaster shall ensure that the

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Dakota Access Pipeline
North & South Dakota, Iowa, Illinois

initiating detonator is placed on bare mineral soil and that there is no vegetation within a 20-foot radius.

2. The shock tube initiating system will be initiated a minimum of 250 feet from the nearest loaded hole.
3. When fire danger is high due to forest conditions, a 2-man fire watch team will patrol each blast area for a period of 1 hour after the required waiting period.

N. Environmental Concerns

All residents within 300 feet of the blast will be notified of blasting activity and offered a pre-blast survey of their residence or structure of concern. In any case, communications with property owners will be maintained.

All necessary measures will be taken to exclude livestock from the blasting area. During the normal safety check prior to blasting, the area will be checked for both livestock and wildlife. The blast will not be initiated until the area is clear.

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EXPLOSIVES SAFETY PROGRAM

1. *The Blasting Contractor* will follow all Federal and State regulations.
 - A. Bureau of Alcohol, Tobacco and Firearms – 27CFR 181 (Commerce in Explosives).
 - B. Occupational Safety and Health Administration – 29CFR 1926.90 (Safety and Health Regulations for Construction Blasting and Use of Explosives).
 - C. Carriage by Public Highway – 49CFR 177 (self-explanatory).
 - D. Explosives and Blasting Agents – OSHA, 29CFR 1910.109 (Safety in the Workplace When Using Explosives).
 - E. Guidelines to be Followed by Natural Gas Pipeline Companies in the Planning, Locating, Clearing and Maintenance of Right-of-Way and the Construction of Above Ground Facilities – 18CFR 2.69.

2. General Regulations
 - A. Only authorized and qualified personnel shall handle explosives and shall always be under the direct supervision of a blaster licensed, if required, by the state of use.
 - B. No flame, heat, radio transmitter or spark-producing device shall be permitted in or near explosives during handling, transport or use.
 - C. No person shall be allowed to handle, use or work in the area while under the influence of liquor, narcotic or dangerous drugs.
 - D. Explosives shall be accounted for at all times. Explosives not in use shall be kept in locked, approved storage magazines. A running inventory shall be maintained at all times. Appropriate authorities shall be notified of any loss, theft or unauthorized entry into a magazine.
 - E. No explosives shall be abandoned.
 - F. No fires shall be fought where contact with explosives is imminent. All personnel shall be cleared and area guarded against other intruders.
 - G. Separate Class I and II magazines shall be used for transport of detonators and explosives from magazine storage area to blast site. Magazines shall be kept locked except for removal of material for use. In addition, explosives will be loaded directly to each shot point from the magazines on approved ground transportation equipment.

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Dakota Access Pipeline
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- H. When blasting in areas of congestion or in close proximity of other structures or services, special precaution will be taken to avoid damage or personal injury.
- I. Every reasonable precaution shall be used to notify others of use of explosives (visual, audible, flags, barricades, etc.). No onlookers or unauthorized personnel will be permitted within 500 feet during loading or blasting. Flaggers shall be stationed on roadways that pass through the danger zone to stop traffic during blasting operations.
- J. All necessary precautions shall be taken to prevent accidental current discharge from any possible source. The exclusive use of a nonelectric initiation system will eliminate this possibility in nearly every situation with the possible exception of lightning strikes.
 - 1. Electrical storms
 - a. All blasting operations shall be suspended and all persons shall be removed from the blasting areas during the approach and progress of an electrical storm. The following rules must be followed:
 - 1. A lightning detector should be used to monitor the proximity of lightning to the shot. When the storm is 10 miles distant as identified by the lightning detector, notify all persons in the blasting crew of approaching storm. Stop all loading of holes and evacuate all personnel, except blaster and assistant, to a safe distance (500 feet) from the blast area.
 - 2. If the blast cannot be initiated before the storm arrives (within 10 miles as indicated by the lightning detector), the blaster shall evacuate the site to a safe distance.
 - 3. Personnel may return to worksite when the storm has passed and is 10 miles distant as determined by the lightning detector or after the completion of blast which allows for inspection of site and/or misfire.
 - 4. If no lightning detector is available, the “1 second per mile” rule of thumb may be used. This rule of thumb is used to estimate the distance of the storm between sight and sound. When lightning is sighted the sound wave typically travels at approximately 1 mile per second. So, if the lightning is spotted and 10 seconds elapses it is about 10 miles away.

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Dakota Access Pipeline
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- K. Empty packing material shall not be used again for any purpose. It shall be burned at an approved location. Typically, this will be in the excavated trench or other designated area.
- L. Damaged or deteriorated blasting supplies shall not be used.
- M. Delivery and issue of explosives shall only be under, by and to authorized persons and into authorized magazine or temporary storage handling areas.
- N. Blasting operations shall not be carried out in the proximity of other utilities or property owners without prior approval. "ONE CALL" notification requirements shall be followed.
- O. All loading and firing shall be directed and supervised by a competent and experienced person.
- P. No loaded holes shall be left unattended or unprotected. No explosives or blasting agents shall be abandoned on the right-of-way. Explosives shall not be primed until immediately before use and shall not be allowed to lay overnight in drilled holes.
- Q. All jurisdictional authorities shall be granted unrestricted access to all explosive records as well as site access for procedural inspections. All personnel not involved with the current blasting operation must check in with the blaster before entering the blasting zone.
- R. Warning signs, indicating the blast area, shall be erected and maintained at all approaches to the blast area. Warning sign lettering shall be readable from a reasonable distance and on a contrasting background.
- S. The warning signs will be erected and maintained at all approaches to the blast area. Flaggers will be stationed on all roadways passing within 500 feet of the blast area and be responsible to stop all traffic during blasting operations. All personnel not involved in the actual blast shall stand back at least 500 feet from the time the blast signal is given until the "All Clear" has been sounded. An audible blasting signal (air horn or siren) shall be used. The following blast signals will be used during blasting.
 - 1. Warning Signal A series of two long horn or siren sounds will be made 2 minutes prior to the blast.
 - 2. Blast Signal One prolonged horn or siren sound will be sounded one minute prior to the blast.

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Dakota Access Pipeline
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3. All Clear Signal Two short blasts on the horn or siren sound will be sounded following the blast once the blast area has been inspected and deemed safe.

- T. All blasting will be performed with a nonelectric initiation system and shall follow standard industry guidelines in regard to use and safety.

- U. Blaster qualifications shall meet all federal, state and local standards.

- V. Misfires
 1. If there are any misfires, all employees shall remain away from the suspected misfire area for at least 15 minutes. Misfires shall be handled under the direction of the blaster in charge. All leads shall be carefully traced and a search made for unexploded charges.
 2. If a misfire is found, the blaster shall provide proper safeguards for excluding all employees from the danger zone.
 3. No other work shall be done except that necessary to remove the hazard of the misfire and only those employees necessary to do the work shall remain in the danger zone.
 4. No attempt shall be made to extract explosives from any charged or misfired hole! A new primer shall be inserted into the hole and the hole shall be reshot. If re-firing of the misfired hole presents a hazard, the explosives may be removed by washing out with water or, where the misfire is underwater, blown out with air.
 5. No drilling, digging or picking shall be permitted until all missed holes have been detonated or the authorized representative has approved that work can proceed.
 6. Prior to the end of the working day, any misfires shall be located and rendered safe.

C.6

Unanticipated Discoveries Plan

UNANTICIPATED DISCOVERIES PLAN CULTURAL RESOURCES, HUMAN REMAINS, PALEONTOLOGICAL RESOURCES & CONTAMINATED MEDIA

Dakota Access Pipeline Project (DAPL)

A. INTRODUCTION

Dakota Access, LLC is proposing to install approximately 1,100 miles of 12- to 30-inch pipeline from Stanley, North Dakota, crossing South Dakota and Iowa, to an existing tank hub near Patoka, Illinois crossing South Dakota and Iowa as well.

This document describes the procedures for dealing with unanticipated discoveries during the course of project construction. It is intended to:

- Maintain compliance with applicable Federal and State laws and regulations during construction of the Project;
- Describe to regulatory and review agencies the procedure the project or its representative will follow to prepare for and deal with unanticipated discoveries; and,

Provide direction and guidance to project personnel as to the proper procedure to be followed should an unanticipated discovery occur.

B. PROCEDURES FOR THE DISCOVERY OF CULTURAL RESOURCES

In the event that any member of the construction work force believes that a cultural resource discovery is encountered the following plan will be implemented:

1. All work within 100 feet both sides of the discovery will immediately stop and the Environmental Inspector (EI) will be notified. The area of work stoppage will be adequate to provide for the security, protection, and integrity of the materials. A cultural resource can be prehistoric or historic and could consist of, but not be limited to, for example:
 - An accumulation of shell, burned rocks, or other subsistence related materials
 - An area of charcoal or very dark soil with artifacts
 - Stone tools, arrowheads, or dense concentrations of stone artifacts
 - A cluster of bones in association with shell, charcoal, burned rocks, or stone artifacts
 - A historic structure or assemblage of historic materials older than 50 years
2. If the EI believes that the discovery is a cultural resource, the EI will take appropriate steps to protect the discovery site. This will include flagging the immediate area of discovery and stop work or exclusion zone, as well as notifying the Environmental Project Manager and/or Company

Representative. Work in the immediate area will not resume until treatment of the discovery has been completed.

3. Dakota Access or its representative will arrange for the discovery to be evaluated by a qualified archaeologist in accordance with applicable regulations. The archaeologist will evaluate the remains and provide recommendations for how to manage the resource under the appropriate State's Historic Preservation Plan.
4. If the discovery is within an area of federal jurisdiction, the appropriate federal agency will be consulted. If the discovery is determined to have the potential for eligibility, the archaeologist and Dakota Access will also consult with the SHPO on how best to avoid, minimize, or otherwise mitigate further impacts. Treatment measures may include mapping, photography, sample collection, or excavation activity.
5. The archaeologist will implement the appropriate treatment measure(s) and provide a report on its methods and results as required. The investigation and technical report will be performed in compliance with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 CFR 44734--44737); the Advisory Council on Historic Preservation (ACHP) publication "Treatment of Archaeological Properties" (ACHP 1980); and follow the guidelines set forth by the applicable State(s) Historic Preservation Office.

C. PROCEDURES FOR THE DISCOVERY OF HUMAN REMAINS

In the event that human remains are encountered during either construction or maintenance activities, the following plan outlines the specific procedures to be followed. These procedures meet or exceed the Policy Statement Regarding Treatment of Burial Sites, Human Remains, and Funerary Objects set forth by the National Historic Preservation Act (Public Law [PL] 89-665), its implementing regulations, "Protection of Historic and Cultural Properties" (36 CFR Part 800); the Native American Grave and Repatriation Act (43 CFR Part 10); Procedures for the Protection of Historic Properties (33 CFR 325 Appendix C); the Archaeological and Historic Preservation Act; and Consultation and Coordination with Indian Tribal Governments (EO 13175); North Dakota's "Protection of human remains, and burial goods – Unlawful acts – Penalties - Exceptions" law (North Dakota Century Code [NDCC] 23-06-27) and its accompanying administrative rules (North Dakota Administrative Code [NDAC] 40-02-03).

All activity that might disturb the remains shall cease and may not resume until authorized by appropriate law enforcement officials or the State Archaeologist. Any human remains, burial sites, or burial related materials that are discovered during construction will at all times be treated with dignity and respect. If any member of the construction work force believes that human remains are encountered the following plan will be implemented:

1. Any activity that may disturb the unmarked burial site, human skeletal remains, or burial artifacts associated with the site will immediately cease on discovery. The site will be carefully covered and secured for protection from degradation by weather or unauthorized individuals.
2. The EI will be notified and responsible for taking appropriate steps to protect the discovery. This

will include fencing off the immediate area of discovery and flagging the area as an exclusion zone. No activity may resume until authorized by the agency authority governing the disposition of the human remains.

3. The EI will notify the Project Environmental Manager, who will contact the Project archeologist, specific county law enforcement agency and the coroner of the jurisdiction where the site or remains are located. The State Archaeologist will also be contacted to assist with identifying the remains.
4. If the unmarked burial site, human skeletal remains, or funerary objects can be shown to have ethnic affinity with a living Native American tribe, a the Environmental Project Manager will notify the appropriate federal agency with jurisdiction and/or NDSHPO to assist in determining the tribe(s), if any, who may have historic ties to the region and represent descendants of any Native American remains. If direct relations to a Native American tribe are verified, the tribe will have control of the disposition of the human skeletal remains.
5. If the District Coroner finds that the unmarked burial site is over 50 years old and that there is no need for a legal inquiry by their office or for a criminal investigation, and if no direct relations to any Native American tribe are found, then the SHPO will have jurisdiction of the site, human skeletal remains, and the burial artifacts.

D. PROCEDURES FOR THE DISCOVERY OF PALEONTOLOGICAL RESOURCES

In the event that any member of the construction work force believes that a paleontological resource discovery is encountered the following plan will be implemented:

1. All work within 100 feet both sides of the discovery will immediately stop and the EI will be notified. The area of work stoppage will be adequate to provide for the security, protection, and integrity of the materials. A paleontological resource would be expected to be in the form of fossils. In-situ fossils are usually found within layers of geologically old sediments and rocks where the creature lived, died, and became fossilized. However, through geologic, hydrologic, and marine activity, many fossils and parts of fossils have been carried into younger geologic areas.
2. If the EI believes that the discovery is a paleontological resource, the EI will take appropriate steps to protect the discovery site. This will include flagging the immediate area of discovery and stop work or exclusion zone, as well as notifying the Environmental Project Manager and/or Company Representative. Work in the immediate area will not resume until treatment of the discovery has been completed.
3. The Project Environmental Manager will arrange for the discovery to be evaluated by a qualified geologist/paleontologist in accordance with applicable regulations. The geologist/paleontologist will evaluate the remains and provide recommendations for how to manage the resource.
4. If the find is on state land, the Project Environmental Manager will notify the land managing state agency and the North Dakota Geological Survey, pursuant to North Dakota Century Code NDCC 54-17.3 "Paleontological Resource Protection," which addresses the need to obtain a permit to record,

excavate, or collect paleontological resources on state land. If the find is on federal or municipal land, the Project Environmental Manager will inform the appropriate land managing agency of the find. Treatment measures may include mapping, photography, sample collection, or excavation activity. The geologist/paleontologist will implement the appropriate treatment measure(s) and provide a report on its methods and results as required.

E. PROCEDURES FOR THE DISCOVERY OF CONTAMINATED MEDIA

Indicators of possible contamination include, but are not limited to:

- Buried drums or containers, rusted or in otherwise poor condition
- Stained or otherwise discolored soil (in contrast to adjoining materials)
- Spoil material containing debris other than obvious construction material
- Chemical or hydrocarbon odors emanating from excavations
- Oily residues
- Visible sheen or other discoloration on groundwater
- Structures such as pipelines (concrete, PVC or steel) or underground storage tanks.

The EI and appropriate contractor personnel will be trained in hazard identification and worker protection and these topics will be discussed regularly in safety meetings. A desktop assessment for contaminated along the Project route indicated that contamination it not likely to be encountered during construction. In the unlikely event that contamination is encountered the following activities should take place:

1. Immediately cease construction activities within that area and notify the EI and Project Environmental Manager. Work in the immediate area will not resume until an assessment of the discovery has been completed and the Company has released the site. If safe to do so, the EI will take appropriate steps to mark (flag) off the area to identify the exclusion zone. Work in the immediate area will not resume until an assessment discovery has been completed.
2. If potentially contaminated groundwater or soil reaches (or has the potential to reach) surface waters, booms and/or absorbent materials shall be immediately deployed to contain and reduce downstream migration of the spilled material.
3. Upon notification, the Project Environmental Manager will perform or direct a hazard assessment to determine appropriate control measures to be implemented at the specific site. Activities may include sampling vapors, soil, sediments, groundwater, and/or wipe samples of materials.
4. If warranted by the assessment, the Project Environmental Manager will notify appropriate Federal, State and Local agencies.
5. Company or the designated person(s) will make appropriate notifications to regulating agencies as necessary. Upon evaluation of the sampling results, additional notifications may be made to coordinate a work plan for measures to be implemented in the contaminated area to resume activities in a safe, environmentally compliant, and effective manner. Measures may include additional personal protective equipment, segregation of contaminated media, treatment or off-site disposal of contaminated media.
6. All identification /characterization, handling, labeling, storage, manifesting, transportation, record keeping, and disposal of potentially contaminated materials shall be conducted in accordance with all applicable federal, state, and local regulations and guidance.

F. PROJECT CONTACTS

Environmental Inspector

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Email:
Address:

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North Dakota State Historic Preservation Program

Contact: Merlan E. Paaverud, Jr., Director/SHPO
Telephone: (701) 328-2672
Fax: (701) 328-3710
E-mail: mpaaverud@nd.gov
Address: State Historical Society of North Dakota
612 East Boulevard Avenue, Bismarck, ND 58505-0830

North Dakota Geological Survey

Contact: Edward C. Murphy, State Geologist
Telephone: (701) 328-8000
Email: emurphy@nd.gov
Address: North Dakota Industrial Commission
Department of Mineral Resources/North Dakota Geological Survey
1016 East Calgary Ave., Bismarck, ND 58503

County Sherriff Department Contacts

| County | Sherriff | Address | Phone | Fax |
|-----------|----------------------|--|---------------------------|--------------|
| Mountrail | Kenneth G. Halvorson | P.O. Box 309, Stanley, ND 58784-0309 | 701-628-2975 | 701-628-3975 |
| Williams | Scott Busching | Williams County Law Enforcement Center 223 East Broadway Suite 301 Williston, ND 58801 | 701-577-7700 | NA |
| McKenzie | John Fulwider | 201 5 th Street NW Watford City, ND 58854 | 701-444-3654 Ext. 1420 | NA |
| Dunn | Clay Coker | 205 Owens Street Manning, ND | 701-573-4449 | 701-573-4311 |
| Mercer | Dean Danzeisen | 419 North Avenue Stanton, ND 58571 | 701-745-3333 | 701-745-3347 |
| Morton | Dave Shipman | 205 1 st Avenue NW Mandan, ND 58554 | 701-667-3330 | NA |
| Emmons | Gary Sanders | P.O. Box 159 Linton, ND 58552-0159 | 701-254-4411 | 701-254-5311 |